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THE

GENERA AND SPECIES

OF

ORCHIDACEOUS PLANTS.

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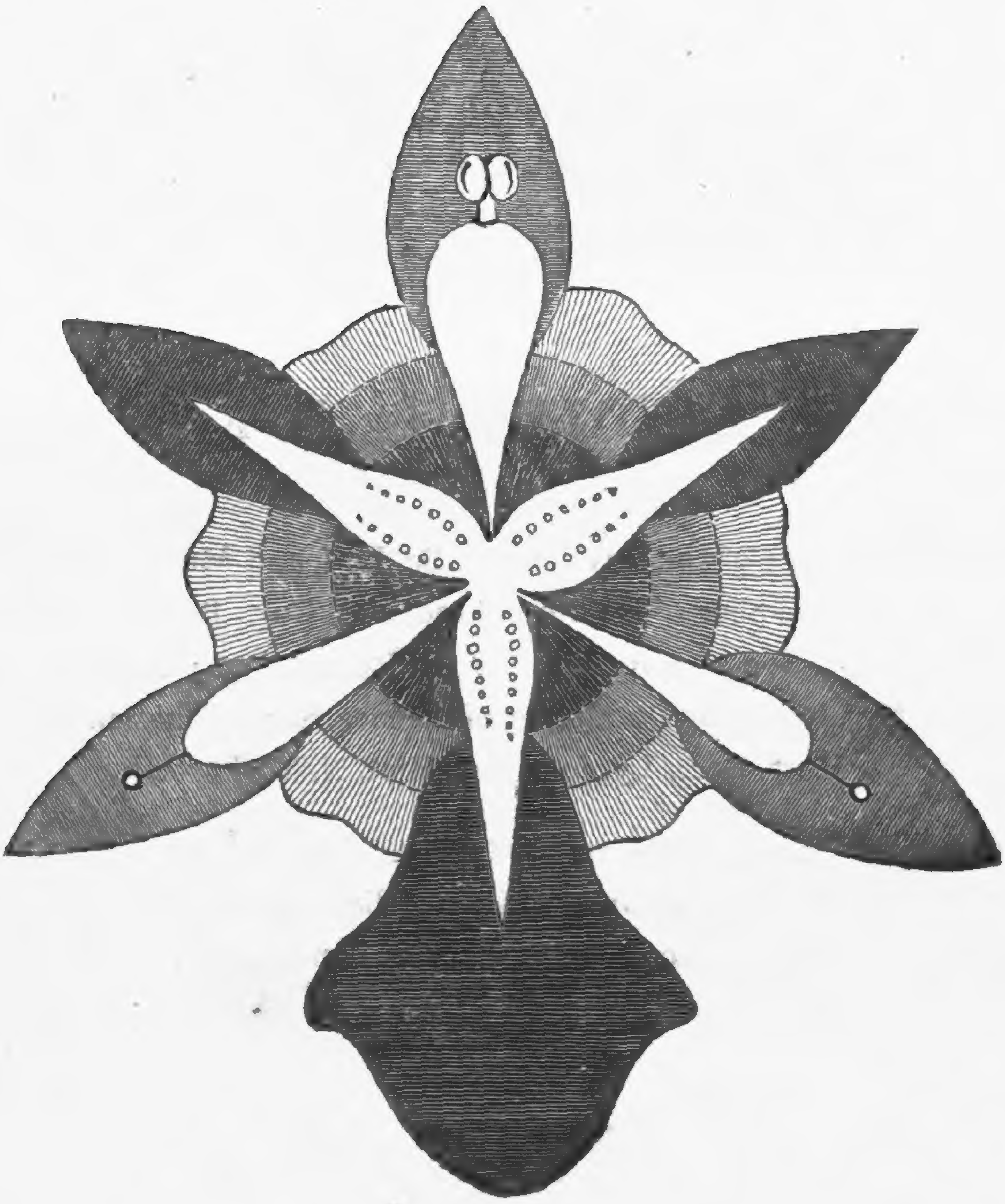

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THIS WORK

IS GRATEFULLY INSCRIBED

IN TESTIMONY OF THE HIGH RESPECT

AND

VERY SINCERE ESTEEM

OF

THE AUTHOR.

(*June*, 1830.)

PREFACE.

THIS work, which has been ten years in execution, would have been long since brought to a close had the subject been less difficult, or one which demanded less exact examination. It has, however, proved a most laborious task to examine with the necessary care so large a number of plants of a very intricate structure, in a dried state; and the author's other engagements have left him little leisure for the steady prosecution of this enquiry, so that it has been impracticable to advance with greater speed.

This explanation is due to those friends of science whose collections have been entrusted to the author for all this long period. He regrets, however, to add that, during the ten years that have elapsed since the appearance of the first part of the work, his materials for the classification of Malaxeæ, Epidendreæ, and Vandeæ, have so much increased by the acquisition of species in his herbarium, or by the introduction of living plants to the gardens of Europe, as to render a reconsideration of those tribes indispensable. This will take place in a *Revision of the Order*, which is even now in preparation, and which, if his life is spared, may be expected to appear about two years from this time, illustrated with numerous figures of genera. In that work will be incorporated all the author's recent acquisitions, with such others as, in the meanwhile, may be sent him; and an attempt will be made to subdivide the other tribes, upon the same principles as have been adopted in the classification of Neotteæ. The author will be very grateful for assistance; but he finds it necessary, in consequence of the great numbers of dried plants sent him for determination, *to be returned to the owners*, to condition that, from this time forward, with the exception of those in his hands at the present time, he shall not be expected to return the dried plants, which his correspondents may send for names, but that he shall have full

liberty to incorporate them with his own herbarium, unless some express arrangement is made to the contrary. For it is unjust that he should sacrifice his time to this kind of enquiry, merely to satisfy the curiosity of those who are unable to determine Orchidaceous plants for themselves. The author will, however, in all cases quote in the intended "Revision" of the order, the numbers attached to the specimens sent to him and preserved by him; so that if those, who are so obliging as to communicate them, will preserve duplicates with similar numbers, they will be able, when that work appears, to ascertain what their plants have proved to be.

In the prosecution of his task thus far, the author has received from numerous quarters most essential assistance. He is, however, still in great want of communications from some parts of the world, as will be seen by the following geographical arrangement of the evidence upon which his knowledge of species has been formed.

EUROPEAN species have been supplied by many botanists, especially by the late Baron Jacquin, Professors Tineo and Tenore, Dr. Hornschuch, and Messrs. Bentham, Talbot, Strangways, &c.

Those of SIBERIA and NORTHERN ASIA were furnished by the late lamented Mr. Prescott, whose access to Russian herbaria enabled him to procure several species, of which nothing has been seen elsewhere. Materials have been also communicated by Dr. Fischer, Professors Ledebour and Bunge, and others; but more information is still required for the species of *the Southern provinces of Russia, and of the more easterly provinces of that power in Asia.*

Of NORTH AMERICAN species there are few which have not been carefully examined. Those of the United States and Canada have been given to the author by Mr. Menzies, Drs. Torrey, Asa Gray, and Booth, and by Sir W. Hooker; others have been purchased. In addition he has examined the valuable collections formed in California and North West America, for the Horticultural Society, by Douglas, and in Texas and Carolina by Drummond. For Mexican species considerable materials have been furnished by the ample collections of Karwinski, in the Royal Museum of Munich; of Deppe and Schiede, communicated by Professor Schlectendahl; of Hartweg, and others; and by the large importations of living plants into this country. But a considerable number of species described by Llave and Lexarza, have as yet escaped observation, and remain for future determination. *Information concerning them is greatly needed.*

For CENTRAL AMERICA the materials at the disposal of the author have been less copious, considering the great richness of those countries in plants of this natural order; and yet they have been considerable. The species of Peru, collected by Mathews, of Quito and the Quitinian Andes gathered by Professor Jameson and the late Col. Hall, and preserved in the herbarium of Sir W. Hooker, and a few others have yielded the greater part of the information in the possession of the author; for the difficulty of communication between England and these parts of the world, for the present, forbids the acquisition of many species in our gardens. It will, therefore, be found that *many of the species of Humboldt and Bonpland, of Hænke, Pöppig, and the authors of the Flora Peruviana, still remain to be examined by the author.* Of the latter, however, a portion has been found in the collection of Mr. Lambert.

The EAST COAST OF EQUATORIAL AMERICA and the WEST INDIES are more completely investigated. Our gardens are rich in species from those parts of the world, and herbaria are less deficient in them. A great quantity of information has been furnished by the collections of Mr. Schomburgk in Tortola and British Guayana; of Martin in French Guayana, for whose plants the author is indebted to Mr. N. B. Ward, and of various Botanists in different parts of the West Indies. *There are, however, many of the old species of Swartz, about which no evidence seems to exist in this country; for it is certain that the Flora of Jamaica is less known to Botanists of the present day than that of India. Few collections of dried plants would present greater botanical interest now than those of Jamaica and St. Domingo, from the mountains.*

For the BRAZILIAN FLORA the author has had the advantage of consulting the large collections brought home by Dr. Von Martius, and the drawings by Descourtilz in the possession of Baron Benjamin Delessert; but, unfortunately, both these sources of information were supplied after the publication of the Vandeæ; great additions have, therefore, still to be made in Brazilian plants to both the genera and species of Malaxeæ, Epidendreæ, and Vandeæ, all which will be introduced into the "Revision" already alluded to. Fortunately, however, our gardens are particularly rich in Brazilian Orchidaceæ; and the collections of Salzmann at Bahia, of Forbes, Douglas, G. Don, Macrae, Gardner, and other travellers, together with specimens brought home by Russian botanists, and procured for the author by Mr. Prescott, have placed a considerable mass of materials within the author's reach.

CHILE and the parts of SOUTH AMERICA BEYOND THE TROPIC have been well investigated by Douglas, Cuming, Mathews, Cruckshanks, Bridges, Tweedie, Gillies and others, all of whose collections have been carefully studied; *but there are many of the species mentioned by Pöppig, which the author has never seen.*

The NORTH OF AFRICA possesses few species of this order not common to the South of Europe, Salzmann's collections from Tangiers, Dr. Leman's in Madeira, some kinds met with by Bovè near Algiers, and Mr. Webb's Canary herbarium have furnished the author with the greater part of them.

His knowledge of the species of TROPICAL AFRICA is principally derived from plants found by G. Don at Sierra Leone, a few from Cape Coast Castle and the Isle of France in the Herbarium of Sir W. Hooker, some Madagascar species gathered by Dr. Lyall, and preserved in the same rich magazine, and from the English gardens, where several have from time to time produced their flowers. The author has not, however, been so fortunate as to meet with much to elucidate the obscure species of Du Petit Thouars, from the Isle of France, Bourbon, and Madagascar, and *he earnestly solicits assistance with respect to those islands.*

Of CAPE species his examination has been pretty complete. The beautiful plants found by Mr. Drège and most admirably preserved, have been placed at his disposal by that liberal botanist; besides which he has been able to study the species of Dr. Burchell, communicated by himself, of Mr. Harvey, of Forbes, of Ecklon, and of some of the older collectors preserved in the herbaria of Vahl, Hornemann, and Lehmann, for which he has been indebted to the two last eminent naturalists.

In the WARMER PARTS OF ASIA, copious materials have been furnished. Ceylon species in abundance were communicated by the late Mr. Macrae, besides which the herbarium formed by Col. Walker in that island has been consulted. The vast collections of botanists, travelling under the patronage of the East India Company, have been most liberally given up to unrestricted examination by the Honourable Court of Directors of the East India Company; besides which the author has been largely indebted to the private friendship of Drs. Royle, Wallich, and Wight, and of Mr. Griffith. By these means the Flora of the Himalaya, of a great part of Hindostan, of Burma, Assam, and some parts of the Malayan Archipelago, has been extensively incorporated in this work. *It is, however, a subject of great regret to the author that the*

Orchidaceæ of Java, Sumatra, and the Philippines, countries so peculiarly rich in those plants, should at present be comparatively unknown to him. Many Chinese specimens have been obtained through the Rev. Mr. Vachell, who sent his plants to Professor Henslow, of Cambridge, and from Mr. Reeves; *but of that country and Japan very little can be said to be known.*

The Orchidaceæ peculiar to New Holland were carefully examined by Dr. Brown and Mr. Ferdinand Bauer during Flinders's Voyage; and the author has been so fortunate as to be favoured with authentic specimens of some of them from Dr. Brown himself; he has also been kindly furnished by Dr. Endlicher with tracings of most of Mr. Bauer's drawings preserved in the Imperial Library at Vienna; and he has received materials from the late Mr. Allan Cunningham, the Council of the Linnean Society, Mr. Everett, Sir Thomas Mitchell and others. It is, however, to the collections of Swan River plants formed by Mr. Drummond, and most especially to a very large quantity of Tasmannian specimens, most liberally furnished by Mr. Gunn, that the author is indebted for means of examining the Orchidaceæ of Australia, as is amply testified by the references in the following pages. *There are still, however, many species from the East and North Coast, with which he has no acquaintance.*

New Zealand is as yet almost an unknown land with respect to Orchidaceæ. *Species from that island or from any parts of the Pacific will in all cases be particularly welcome.*

In an order like this, so peculiarly intricate in the structure of the organs of fructification, collections of dried plants would be of little value, in the absence of that kind of knowledge which can only be obtained from the study of living species. For the latter the author is so extensively indebted to the friends of science in this country, that to acknowledge his obligations particularly, would be to publish a list of all the principal gardens where such plants are cultivated in Great Britain. It would, however, be unjust not to mention the names of his friends, the Messrs. Loddiges, as the most constant of all his correspondents, and as those to whom he has been indebted during many years for a continual and most abundant supply of beautiful living specimens of the utmost rarity. The large quantities of plants sent him by James Bateman, Esq., the author of the noble work on the Orchidaceæ of Mexico and Guatemala, and by George Barker, Esq. of Birmingham, the possessor of an invaluable collection of Mexican

and other species, chiefly imported by himself, will also justify the author's expressing his particular obligations to those gentlemen.

It is only necessary to add that the total number of species included in this work amounts to 1980. Of those which are regarded as well established species the author has analyzed the organs of fructification of more than three fourths.

London, October, 1840.

ORCHIDACEÆ.

The following are the principal writings upon this order since the revival of Natural History by Linnæus.

1737. C. Linnæi, *Genera plantarum.* Gynandria Monandria, and G. Diandria.

1762. C. Linnæi, *Species plantarum, vol.* 2. Gynandria, Monandria, and G. Diandria.

1789. A. L. Jussieu, *Genera plantarum,* p. 64. Orchides.

1791. J. G. Konig, *Descriptiones Epidendrorum, in Retzii Observat. Botan. fasc.* 6.

1800. O. Swartz, *in Act. Holm.*

1805. C. L. Willdenow, *Species plantarum, vol.* 4. Gynandria.

1806. O. Swartz, *Flora Indiæ occidentalis vol.* 3, *p.* 1391.

1810. R. Brown, *Prodromus Floræ N. Hollandiæ,* 309. Orchideæ. (1810.)

1813. R. Brown, *in Ait. Hort. Kew. ed.* 2. 5. 188.

1815. Al. de Humboldt, A. Bonpland, et C. S. Kunth, *Nova Genera et Species Plantarum, vol.* 1.

1818. L. C. Richard, *De Orchideis Europæis annotationes, in Mémoires du Muséum,* 4. 23.

1821. J. Lindley, *Collectanea Botanicá.*

1822. A. du Petit Thouars, *Histoire particulière des plantes Orchidées recueillies sur les trois iles australes d'Afrique, de France, de Bourbon et de Madagascar.*

1824-1840. J. Lindley, *Botanical Register.*

1825. P. de la Llave et Joh. Lexarza, *Orchidianum Opusculum in Nov. Veg. descr. fasc.* 2.

C. L. Blume, *Bijdragen tot de Flora van Nederlandsch Indie, Stuk* 6, 7, 8, *met vijf Tabellen.*

1826. J. Lindley, *Orchidearum Sceletos.*

1828. Ach. Richard, *Monographie des Orchidées des Iles de France et Bourbon.*

1830. J. Lindley, *Genera and Species of Orchidaceous plants.* Part 1. Malaxideæ.

Id. *An Introduction to the Natural System of Botany.* Orchideæ.

Th. Fr. Bartling, *Ord. Nat. Plantarum,* 54. Orchideæ.

1830-1838. Fr. Bauer, *Illustrations of Orchidaceous plants; with notes and prefatory remarks,* by John Lindley.

1831. J. Lindley, *Genera and Species of Orchidaceous plants.* Part 2 Epidendreæ.

R. Brown, *Observations on the sexual organs of Orchideæ and Asclepiadeæ.*

1832. W. Roxburgh, *Flora India, Vol. III.* Gynandria.

C. Mayrhofer, *dissert. de Orchideis in territorio Vindobonensi crescentibus.*

1833. J. Lindley, *Genera and Species of Orchidaceous Plants.* Part 3. Vandeæ.

1834. Idem, *Catalogue of the Orchideæ in Mr. Cuming's collection of South American Plants,* in *Hooker's Journal of Botany, Vol. I. p.* 4; also *Notes upon a small collection of Peruvian Orchideæ,* Vol. I. p. 8.

1835. Idem, *Genera and Species of Orchidaceous plants.* Part 4. Ophrydearum pars.

C. L. Blume, *Rumphia, Vol. I. p.* 195.

E. Pöppig et St. Endlicher, *Nova genera et species plantarum.*

1836. J. Lindley, *Notes on the Cape Orchidaceæ of Drége,* in *Companion to the Botanical Magazine, Vol. II. p.* 201.

Id. *Notes on some genera and species of American Orchidaceæ,* in *Companion to the Botanical Magazine, Vol. II. p.* 353.

Id. *A Natural System of Botany, p.* 336. Orchideæ.

1837. St. Endlicher, *Genera Plantarum, p.* 185. Orchideæ.

1838-1840. Jas. Bateman, *Orchidaceæ of Mexico and Guatemala.*

J. Lindley, *Sertum Orchidaceum.*

1838. Id. *Genera and Species of Orchidaceous plants,* Part. 5. Ophrydearum pars.

1839. Id. *A note upon the Anatomy of the roots of Ophrydeæ, in Linn. Trans. Vol. XVIII. p.* 423.

1840. Id. *On four new species of Cape Orchidaceæ,* in *Annals of Natural History, Vol. IV.* p. 314.; *also on twenty new species of American Orchidaceæ, p.* 381.

Id. *Genera and Species of Orchidaceous plants, Part 6.* Arethuseæ.

Id. *Characters of* 5 *new Orchidaceous plants,* in *Annals of Natural History, Vol. V. p.* 115; also *Notes upon the genus Epidendrum in Hooker's Journal of Botany, Vol. III. November.*

Id. *Genera and Species of Orchidaceous plants, Part 7.* Neotteæ and Cypripedeæ.

CHARACTER NATURALIS.

Herbæ semper perennes, per totum orbem nisi in regionibus frigidissimis et siccis calidissimis degentes, per zonam temperatam utriusque hemisphæræ maximâ pro parte terrestres, rarò radicibus parasiticæ, intra tropicos è contrario in arborum truncos rupes et saxa vegetantes, terris temperatis humidisque ubi frigora hyemis ignota sunt copiosissimæ, sylvas et lucos arborumque umbram amantes, haud raro tamen per campos et pascuas apricas sparsæ. Radices fibrosæ, fasciculatæ, carnosæ, v. tuberculiformes; tum amyli plenæ et nucleis corneis materie nutriente Bassorin dictâ repletis scatentes. Caules nulli, v. elongati annui, aut sæpiùs perennes lignosi, rhizoma ramosve articulatos vaginatos referentes. Folia ferè semper vaginantia, nonnunquam cum caule articulata, membranacea, coriacea, teretia, imò dura et plicata, semper tamen indivisa, ne margine quidem serrata, nunc denticulis cartilagineis aspera, parallelè venosa, rarissimè subreticulata.

Flores hermaphroditi, irregulares, formâ insoliti et diversissimi, spicati v. racemosi, rariùs solitarii, nunc racemoso-paniculati, semper bracteâ solitariâ fulti; sæpiùs odore gratissimo scatentes, nunc inodori, quandoque fœtidi.

Perianthium varium, herbaceum aut petaloideum, membranaceum v. carnosum, clausum v. reflexum, persistens et emarcidum, v. cum ovario articulatum deciduumque; partibus serie duplici, rarissimè triplici ordinatis, liberis v. diversimodè cohærentibus; sæpius ovarii torsione resupinatum.

Sepala (morphologicè petala dicenda) 3, basi nunc æqualia, nunc variè producta et expansa; duo lateralia torsione ovarii antica, tertiumque s. dorsale axi proximum; rarissimè calyculo (calyce vero) cincta.

Petala (stamina sterilia habenda) sæpiùs 3, rarissimè 1, sepalis interposita, majora v. minora; lateralia sepalo dorsali sæpiùs similia, rarò formâ omninò diversa. Tertium posticum, sed torsione ovarii sæpissimè anticum, polymorphum, *labellum* dictum, cæteris sæpiùs majus et formâ omninò alienâ, basi haud rarò in calcar productum, v. cum pede columnæ basibusque sepalorum lateralium productis cornu efficiens; nunc cum columnâ omninò connatum; aliquando vi quâdam irritabili elasticè mobile; continuum, indivisum, v. trilobum, aut semel bisve constrictum et tum in *hypochilio*, *mesochilio* et *epichilio* distinguendum; nudum aut tuberculis, plicis, lamellisve in speciebus diversis sat constantibus ornatum; nunc appendice carnosâ duplici simplicive e stigmate ortum ducente auctum.

Columna genitalium e stylo staminibusque in corpus solidum conferruminatis conflata, ita ut ille ejusdem faciem labello obversam, hæc dorsalem constituant; cum ovario continua et recta, v. pede plus minus producto in ejusdem verticem obliqua v. prona; sæpius carnosa et indivisa, aliquandò tenuissima petaloidea, ferè semper sepalis brevior, rarissimè* ultra perianthium longè extensa.

Stamina 3, sepalis opposita, centrali tantum antherifero, nisi in Cypripedeis quarum stamen intermedium dilatatur dum abortat et lateralia antheris coronantur; sæpiùs conferruminata, quandoque tamen lateralibus sterilibus omninò liberis, carnosis v. petaloideis. Anthera nunc 1-locularis, sæpius bilocularis; loculis simplicibus v. 2-4-locellatis; solitò per 2 lineas medias dehiscens, nunc facie loculorum separabili et deflexâ bilabiata; connectivo aut membranaceo inconspicuo, aut carnoso et in cristam cornuve extenso; erecta et columnam terminans, v. dorsalis cum stigmatis dorso subparallela, v. opercularis, in *clinandrium* s. columnæ apicem excavatum prona. Pollen nunc pulvereum, nunc in granulis adhærens, nunc in cuneolos materie elasticâ colligatos, nunc in *pollinia* s. massas cereaceas numero definitas conferruminatum. Pollinia aut libera aut sæpiùs materie supra dictâ elasticâ diaphanâ (*caudiculâ*) connexa, ejusque ope stigmatis apici s. *glandulæ* affixa.

Ovarium inferum, 1-loculare, e carpellis 6 constans, quorum 3 petalis opposita placentas didymas polyspermas parietales gerunt, stigmatibus nullis, dum 3 sepalis opposita in stigmata totidem producuntur. Stylus nullus distinctus nisi in Cypripedio Neotteisque quibusdam, sed filamentis conferruminatus. Stigmata sæpius in discum mucosum cavum nunc prominentem confluentia; dorsale in marginem superiorem glandulis 1-2 in Vandeis Neotteisque separabilibus instructum, sæpe in rostellum elongatum v. plicatum, v. in bursiculas excavatum productum, quandoque in brachia bina parallela v. divergentia canaliculata, ope membranæ s. rostelli plicati connexa extensum; lateralia in plurimis obsoleta, nunc basi labelli appendicis s. lamellarum callorumve formâ adnata.

Capsula rarò indehiscens, carnosa, siliquiformis, sæpissimè in valvis 6, siccis, ligneis, rigidis, quarum 3 seminifera solubilis.

Semina plurima, minutissima, testâ laxâ reticulatâ, rarò atrâ crustaceâ, nonnunquam in alam circularem compressâ; embryone exalbuminoso, solido, carnoso; chalazâ apici seminis proximâ ideòque radiculâ hilo contiguâ.

The general structure of Orchidaceæ, briefly embodied in the foregoing description, has been treated of at such length in the prefatory matter of the *Illustrations of Orchidaceous Plants*, that it is unnecessary to do more than refer the reader to that work. I must, however, take the opportunity of correcting one part of the theoretical view which was there taken of the structure of the column. While, in common with Dr. Brown, I regarded the stigma as really consisting of three parts, usually in

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* This occurs only in the obscure plant called Corymbis by Du Petit Thouars, of which I have a specimen, but unfortunately in the same imperfect state as is represented by that author.

a state of confluence. I also supposed the position of the stigmata to be opposite the petals; being led to that conclusion by the constant position of the stigmatic arms of Ophrydæ. That opinion I now retract, in consequence of the position of the stigmata in Cypripedium, which C. spectabile shews most clearly to be opposite the sepals; and therefore the stigmatic arms of Ophrydæ are to be understood as side lobes of that stigma which is opposite the dorsal sepal. This circumstance, however, only confirms the accuracy of my view of the true nature of the stamens, which are certainly all opposite the lobes of the stigma in Cypripedium.

While, however the untenableness of my first opinion, concerning the relation borne by the stigmata to the other parts of the flower, is thus admitted, there remains a difficulty that opposes itself to the view I now take in common with Brown, and which must not be overlooked. It is that the placentiferous pieces of the ovary are not opposite the stigmata, but alternate with them, while the seedless pieces of the ovary are in a line with the stigmata! This seems to show that the ovary is composed of 6 carpellary leaves, of which three bear stigmata without ovules, and three bear ovules without stigmata. However paradoxical this may appear, it is by no means incompatible with the due performance of the functions of impregnation; for the carpellary leaves do not adhere into a solid mass, either in the ovary or in the style. On the contrary they form a cavity open from the stigmatic apex down to the ovules, and the whole of that cavity is lined with a lax conducting tissue, which may nevertheless be exclusively furnished by 3 stigmas only, and may become so confluent with the placentæ as to form a perfect channel of communication for the pollen tubes in their descent into the ovules.

The order owes its chief peculiarities to the following circumstances: *firstly*, to the consolidation of all the sexual organs into one common mass, called the column; *secondly*, to the suppression of all the anthers, except one in the mass of the order, or two in Cypripedeæ; *thirdly*, to the peculiar condition of its pollen, and the anther which contains it; and *fourthly*, to the very general developement of one of the inner leaves of the perianth or petals in an excessive degree, or in an unusual form. These peculiarities are in most cases so striking, and all so strongly manifested in the same flower, that the inexperienced botanist may be unable to discover their real character. We find, however, that the true nature of each part is indicated by special cases of structure occurring in different parts of the order.

Thus in Cypripedium not only are two lateral stamens furnished with anthers, while the central stamen is antherless, but the stigma and style separate from the filaments nearly to the base, and the triple nature of the former is distinctly shown, together with the relation of its lobes to the other parts of the flower. The pollen, which has so anomalous an appearance in its waxy or sectile state, presents the usual appearance of that substance in Goodyera, and many Neotteæ. And the irregularity of the labellum disappears in such genera as Thelymitra, Paxtonia, Macdonaldia, Hexisea, and some others, whose flowers are almost as regular as those of a Sisyrinchium.

It is indeed to the latter genus, more nearly than to any other, that Orchidaceæ seem to approach in structure, except to Zingiberaceæ; so

that they may be supposed to pass into Iridaceæ through Thelymitra and Sisyrinchium on the one hand, and into Zingiberaceæ through Phrynium and such a genus as Evelyna* on the other.

With regard to Apostasiaceæ, their relation to that order does not appear to me to be greater than to either of the two now mentioned; and in the absence of all evidence as to the connecting links which join Orchidaceæ and Apostasiaceæ it seems unnecessary to advert further to the subject. It may, however, be observed that Apostasia has apparently as much claim to be regarded as a diandrous monadelphous Amaryllidaceous plant allied to Hypoxidæ and standing, perhaps, in the same relation to that order as Gilliesia to Liliaceæ, as it has to be regarded as a trilocular Orchidaceous plant with the gynandrous organization lost.

In classifying this order the most important characters appear to reside in the pollen, which in many is consolidated into *firm waxy masses* of a definite number in each species, and in others is either in its usual *loose powdery* condition, or is collected in *granules* or *small wedges* the number of which is far too great to be counted.

Of those with waxy pollen masses some (Malaxeæ) are destitute of any visible processes by which the masses are brought into contact with the stigma; others (Epidendreæ) have strap-shaped caudiculæ, which are either bent down upon the masses themselves, or serve to hold them together, without, however, forming any organized union with the stigma; while the remainder (Vandeæ) have a caudicula, which adheres firmly to a gland found on the upper margin of the stigma and separating freely from that organ. The last form is much more distinct from the two first than they are from each other, and I am inclined to think that hereafter it will either be requisite to combine Malaxeæ with Epidendreæ, or to exclude from the former not only Acanthophippium, Cælogyne and Pholidota, but several other genera at present referred to them.

The genera with powdery, granular, or sectile pollen cannot be classified so conveniently by modifications of that part, but are readily divided into 3 natural tribes by peculiarities in the anther. In some (Ophreæ) the anther is erect, not hinged to the column but continuous with it, and stands above the stigma, the pollen masses having their points directed to the base of the lobes of the anther; in others (Arethuseæ) the anther is hinged to the column, upon the end of which it is placed transversely like a lid; and in others (Neotteæ) it is also hinged to the column, but is stationed at its back so as to be nearly parallel with the stigmatic surface.

If to this we add that Cypripedeæ have two anthers, while all the others have one only, we find the order divided into seven tribes, of which the following is a tabular view.

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* This genus has been published in Pöppig and Endlicher's genera plantarum while the present work was passing through the press and will be introduced into the "Revision." The Bletia capitata of R. Brown, p. 123, is a species of it.

A Tabular view of the Tribes of Orchidaceæ.

I. Anther one only.

A. Pollen masses waxy.

a. No caudicula or separable stigmatic gland,
Tribe I. Malaxeæ (or Malaxideæ). p. 3.

b. A distinct caudicula, but no separable stigmatic gland,
Tribe II. Epidendreæ. p. 95.

c. A distinct caudicula, united to a deciduous stigmatic gland,
Tribe III. Vandeæ. p. 135.

B. Pollen powdery, granular, or sectile.

a. Anther terminal, erect,
Tribe IV. Ophreæ (or Ophrydeæ.) p. 257.

b. Anther terminal, opercular, - Tribe V. Arethuseæ. p. 381.

c. Anther dorsal - - Tribe VI. Neotteæ. p. 441.

II. Anthers two - - - Tribe VII. Cypripedeæ. p. 525.

So far as the present enumeration of species illustrates the geographical distribution of those tribes, the following table shows their proportions in various parts of the world. It is, however, to be observed that the number of species of Malaxeæ, Epidendreæ, and Vandeæ is far too low.

Names of Tribes.	Number of Species described.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropics.	South America beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropics.	North Africa.
I. Malaxeæ . .	380	3	2	4	56	44	24	152	10	4	10	10	46	.	.	26	9	.
II. Epidendreæ	153	.	.	2	8	5	4	16	4	1	.	.	112	.	.	2	.	.
III. Vandeæ .	487	1	1	2	58	41	24	109	11	3	5	2	198	.	14	34	9	.
IV. Ophreæ . .	449	85	28	42	48	17	9	7	3	2	2	.	33	6	135	31	6	23
V. Arethuseæ	218	5	1	8	5	3	.	9	.	3?	115	.	26	31	.	1	.	.
VI. Neotteæ. .	270	11	6	19	11	16	10	28	3	.	77	1	90	7	.	2	.	2
VII. Cypripedeæ	23	2	4	9	3	.	.	1	.	2	.	.	6	.	.	.	.	.
Total	1980	107	42	86	189	126	72	322	31	15	209	13	511	42	149	96	24	25

ORCHIDEÆ.

ORCHIDEÆ.

Tribe I. Malaxideæ.

Orchideæ, Tribus Malaxideæ. *Lindl. Coll. Bot. Orch. Scel.*

Pollen in massis cereaceis (polliniis) definitis cohærens, telâ omni cellulosâ superfluâ ademptâ. Anthera terminalis, opercularis. Herbæ epiphytæ v. terrestres, foliorum basibus v. caulibus sæpiùs incrassatis.

I comprehend in this Tribe all the genera that have their pollen cohering in masses of a firm waxy texture, without any of the cellular substance, by which the grains are connected, remaining under the form of a distinct gland lying upon the stigma, or of an elastic transparent communication (caudicula) between the pollen masses and the gland. Malaxideæ may, in other words, be considered as Orchideous plants, the pollen of which communicates directly with the stigma, without the intervention of any intermediate apparatus.

Section I. Pleurothalleæ.

Orchideæ; *Tribus* Malaxideæ,* Pleurothalleæ. *Lindley in Bot. Reg. fol.*

Columna erecta, ad basin parum producta.

Artificial Analysis of the Genera.

Pollinia 2.

Labellum cum columna connatum, bilobum - -	4. Lepanthes.
Labellum liberum	
Sepala lateralia connata	
Columna aptera. Anthera apice membranacea -	1. Pleurothallis.
Columna alata. Anthera apice dilatata carnosa	6. Osyricera.
Sepala lateralia libera	
Columna elongata	
Labellum trilobum. Pollinia dimidiata. Columna basi alata - - - -	7. Chrysoglossum.
Labellum integerrimum. Pollinia arcuata. Columna basi aptera - - -	18. Cyrtosia.
Columna nana	
Labellum petalis conforme	
Sepala lateralia basi saccata - -	2. Specklinia.
Sepala lateralia basi plana - - -	5. Stelis.

Labellum petalis difforme	
Sepala et petala conformia. Labellum planum sæpiùs truncatum - -	10. OBERONIA.
Sepala et petala conformia. Labellum medio constrictum basi concavum - -	27. MESOCLASTES.

Pollinia 4.

Sepala lateralia connata.	
Sepalum supremum acuminatissimum - - -	9. RESTREPIA.
Sepalum supremum lateralibus conforme - -	8. GASTROGLOTTIS.
Sepala lateralia libera.	
Sepala et petala subæqualia erecta.	
Anthera biloba - - - - -	22. CŒLIA.
Anthera integra	
Anthera longitudin. dehiscens	
Labellum integerrimum. Columna bicornis	20. DENDROCHILUM.
Labellum trilobum. Columna mutica	
Pollinia collateralia (oo oo) -	25. CŒLOGYNE.
Pollinia incumbentia (8 8) - -	26. DICRYPTA.
Anthera transversè dehiscens	
Labellum ventricosum - - -	23 PHOLIDOTA.
Labellum lineare basi auriculatum - -	21. OTOCHILUS.
Sepala et petala patentissima valdè inæqualia.	
Labellum cum columna angulum rectum efformans, basi sagittatum v. cordatum - -	13. MICROSTYLIS.
Labellum cum columna subparallelum	
Labellum (nanum) petalis conforme. Pollinia incumbentia (8 8) - - -	15 MALAXIS.
Labellum petalis majus et difforme. Pollinia collateralia (oo oo)	
Labellum integrum. Columna elongata.	
Labellum basi cucullatum cum facie columnæ altè accretum, sepalis lateralibus obliquè connatum - -	11. EMPUSA.
Labellum basi planum	
Columna semiteres - -	19. LIPARIS.
Columna disciformis compressa	12. PLATYSTYLIS.
Labellum tridentatum, nunc excavatum. Columna nana - - -	14. DIENIA.

Pollinia 8.

Labellum calcaratum - - - - -	16. NEPHELAPHYLLUM.
Labellum ecalcaratum	
Petala aristata - - - - -	17. ACIANTHUS.
Petala mutica	
Columna semiteres - - - - -	3. OCTOMERIA.
Columna alata, apice cucullata. Labellum lamellatum	24. DILOCHIA.

I. PLEUROTHALLIS.

Pleurothallis, *R. Brown*, *in Hort. Kew.* 5. 211.

Sepala conniventia, subæqualia : lateralibus v. omnibus connatis. Petala minora. Labellum liberum, cum columna subparallelum, integerrimum, petalis difforme. Columna elongata, aptera, libera, cum ovario continua. Anthera apice membranacea. Pollinia 2, nunc materie pulvereâ ad apicem cohærentia.——Herbæ epiphytæ, rhizomate repente filiformi. Caules filiformes, monophylli, sæpiùs vaginati. Flores axillares, solitarii, v. fasciculati, v. racemosi, herbacei v. fusci.

The species of this genus are in great want of careful examination by some West Indian Botanist who has opportunities of seeing them alive. In Herbaria the specimens are almost always bad, and the parts are besides difficult to make out, on account of their minuteness. I am in possession

of a species from Mexico, and of another from Rio, both of which are no doubt undescribed, but I am unwilling to publish them without better materials.

1. Pleurothallis ruscifolia. *R. Br.*

P. folio ovali-lanceolato caulis longitudine, floribus fasciculatis, spathâ bivalvi, pedicellis 2-3-bracteatis filiformibus floribus longioribus, sepalis ovato-lanceolatis: lateralibus connatis, petalis lineari-lanceolatis minoribus, labello oblongo undulato obtuso.

Epidendrum ruscifolium. *Linn. sp. pl.* 1353. *Jacq. Amer.* 226. *t.* 133. *f.* 3.
Dendrobium ruscifolium. *Swartz ! n. act. Ups.* 6. *p.* 84. *Willd. n.* 16.
Pleurothallis ruscifolia. *R. Br. in Hort. Kew.* 5. 211. *Hooker Ex. Fl.* 197.

Hab. in *Jamaica* super arbores, *Swartz*; in insulis Caribæis, *De Ponthieu*, *(v. s. sp. in Herb. Banks. et v. cult.)*

Dr. Hooker's figure is authority for this species, and it is from it that I have framed my specific character. It is extremely probable that more species than one are confounded under the same name. I have specimens from Rio of what is no doubt nearly allied to this, but which differs in the form of the leaf, and in having a ciliated Labellum; my specimens are not good enough to describe.

2. Pleurothallis laurifolia. *Kunth.*

P. "caule monophyllo, folio oblongo acuminato basi angustato, floribus fasciculato-congestis, foliolis calycinis exterioribus lateralibus apice liberis." *Kunth. in Humb. et Bonpl. n. g. et sp.* 1. 364. *synops.* 1. 346.

Hab. in devexis Andium *Popayanensium* alt. 1200 hex. florens Novembre; *Humboldt et Bonpland.*

Related to P. ruscifolia, according to Kunth.

3. Pleurothallis succosa.

P. caule tereti folio ovato-lanceolato succoso triplò longiore, floribus fasciculatis subsessilibus, sepalis lanceolatis: lateralibus omninò connatis, petalis linearibus subulatis, labello minimo ovato carnoso recurvo columnæ longitudine.

Humboldtia succosa. *Pavon. in Herb. Lamb.*

Hab. in *Peruvia, Pavon. (exam. s. sp. in Herb. Lambert.)*

Caulis semipedalis. Folium 2 uncias longum. Petala integra, sepalis paulò breviora. Columna nana, anthera horizontali subglobosa.

4. Pleurothallis cordata.

P. caule tereti sulcato folio subrotundo horizontali altè cordato acuminato multo longiore, floribus fasciculatis e spatha brevi coriacea subexsertis.

Humboldtia cordata. *Fl. Peruv ! syst. p.* 234.
Stelis cordata. *Pers. syn. no.* 3.

Hab. in *Peruvia*; *Pavon. (v. s. defl. in Herb. Lambert.)*

Gigantea. Caules validi, erecti, esquamati, ferè pedales. Folia horizontalia, 3½ uncias longa, sinubus baseos cordatæ imbricantibus. Alabastrum unicum vidi valdè juvene subglobosum, undè sepala rotundata conjicio.

? 5. Pleurothallis lanceolata.

P. caule ascendente tereti folio ovato lanceolato erecto ferè triplo longiore,

racemo solitario folio longiore apice nutante e spathâ maximâ coriaceâ dimidiam folii ferè æquante.

Humboldtia lanceolata. *Fl. Peruv! syst.* 237.
Stelis lanceolata. *Pers. syn. no.* 12.

Hab. in *Peruvia; Pavon.* (*v. s. sp. defl. in Herb. Lamb.*)

Caulis robustus 10 uncias, folium in basi attenuatum 7, spatha 3, racemus 8 longi.

6. Pleurothallis tribuloides.

P. "caule brevissimo monophyllo, folio lanceolato obtuso emarginatove, pedunculo brevissimo unifloro, capsula globosa echinata." *Swartz sub Dendrobio.*

Epidendrum tribuloides, *Swartz Prodr.* 123.
Dendrobium tribuloides, *Swartz Fl. Ind. Occ.* 1525. *Willd. n.* 8.

Hab. in sylvis interioribus *Jamaicæ,* parasitica arborum Crescentiæ; *Swartz.*

Flores minuti rubri, bracteis geminis ovatis parvis sub germine. Sepala ovata: lateralibus semiconnatis intus punctatis. Petala colore saturatiore. Labellum oblongum, obtusum, concavum, recurvatum, striatum, margine ciliato; ex *Swartz.*

7. Pleurothallis prolifera. *Herbert.*

P. caulibus ancipitibus, folio oblongo cochleato carnoso prolifero racemo duplo longiore, bracteis cuneatis cuspidatis cucullatis pedicello brevioribus, sepalis conniventibus: lateralibus semiconnatis, petalis labelloque conformibus duplo longioribus, clinandrio dentato.

Pl. prolifera, *Herbert in litt. Lindl. in Bot. Reg. t.* 1298.

Hab. in Brazilia (*v. v. cult.*)

8. Pleurothallis racemiflora. *Lindley.*

P. folio oblongo emarginato racemo secundo multifloro duplo breviore, bracteis vaginatis appressis, sepalis ovato-lanceolatis: lateralibus connatis petalis ovatis subæqualibus, labello subunguiculato linguæformi obtuso plano, clinandrio dentato.

Epidendrum racemiflorum. *Swartz Prodr.* 125.
Dendrobium racemiflorum. *Swartz! Fl. Ind. Occ.* 1543. *Willd. n.* 12.
Pleurothallis racemiflora. *Lindl. in Hooker. Exot. Florâ, t.* 123.

Hab. super arbores in summis montibus *Jamaicæ* australis; *Swartz.* (*v. s. sp. in Herb. Banks. et v. cult.*)

9. Pleurothallis emarginata.

P. acaulis, foliis solitariis lineari-loratis emarginatis, racemis capillaribus foliis triplo longioribus, sepalis ovato-lanceolatis altè connatis: apicibus liberis carnosis, petalis cuneatis columna brevioribus labelloque trilobo nanis.

Humboldtia emarginata. *Pavon. in Herb. Lambert.*

Hab. in *Peruvia; Pavon.* (*exam. s. sp. in Herb. Lamb.*)

Cæspitosa, verosimiliter epiphyta. Folia cum basi petioliformi $4\frac{1}{2}$ uncias longa. Racemi cernui (an penduli?) 9 uncias longi. Bracteæ lineares, cucullatæ. Sepala omnia ultra dimidiam connata. Columna triplo sepalis brevior, petalis tamen longior. Labellum cum columna parallelum, ejusdem longitudine, trilobum, lobis rotundatis.

10. Pleurothallis spiralis.

P. caule tereti squamoso folio oblongo æquali, racemo erecto spirali folio longiore, bracteis acuminatis, sepalis ovatis obtusiusculis : lateralibus in unum cymbiforme connatis, petalis columna labelloque truncatis nanis.

Humboldtia spiralis. *Fl. Peruv! syst.* 237.
Stelis spiralis. *Pers. syn. no.* 13.

Hab. in *Peruvia, Pavon.* (*exam. s. sp. in Herb. Lambert.*)

Flores maximi in genere, verosimiliter purpurei. Bracteæ latæ, membranaceæ, cucullatæ, apice acuminatissimæ. Sepala septemvenia, latè ovata. Petala minima cuneata, quasi truncata, margine superiore crasso plano, trivenia. Labellum triquetrum. Columna triquetra. Anthera membranacea unilocularis.

This very curious species has the habit and petals of Stelis, but its connate lower sepals fix it in Pleurothallis; it connects the two genera.

11. Pleurothallis macrophylla. *Kunth.*

P. "caule monophyllo, folio oblongo acuto, spicis compluribus aggregatis, foliolis calycinis exterioribus lateralibus omnino connatis." *Kunth. in Humb. et Bonpl. n. g. et sp.* 1. 365. *Synops.* 1. 346.

Hab. super arbores in Provincia *Popayanensi,* florens Novembre; *Humboldt et Bonpland.*

12. Pleurothallis pulchella. *Lindley.*

P. spicis geminis folio oblongo-lanceolato obtuso coriaceo duplo longioribus, floribus nutantibus, sepalis oblongis apice angustatis triveniis : superiore duplo latiore.

Stelis pulchella. *Kunth. in Humb. et Bonpl. n. g. et sp. pl.* 1. 364. *t.* 90. *Synops.* 1. 346.
Pleurothallis pulchella. *Lindley in Hooker. Exot. Fl.* 123. *in notis.*

Hab. sub cœlo temperato *Regni Quitensis,* alt 1370 hex. florens Februario; *Humboldt et Bonp.*

13. Pleurothallis laxa.

P. "caule monophyllo, folio oblongo acuminato, racemis laxis; capsulis nudis." *Swartz sub Dendrobio.*

Epidendrum laxum. *Swartz Prodr. p.* 125.
Dendrobium laxum. *Swartz! Fl. Ind. Occ.* 1547. *Willd. n.* 14.

Hab. in altissimis montibus *Jamaicæ* australis, super ramos arborum; *Swartz. (v. s. sp. in Herb. Banks. sine analysi.)*

P. alpestri valdè affinis; utraque bracteis cucullatis distincta. Racemi foliis subæquales. Flores secundi, atropurpurei, lineati. Bracteæ cucullatæ. Sepala lateralia semiconnata. Labellum ovatum, canaliculatum, apice reflexum, cœrulescens; ex *Swartz.*

14. Pleurothallis alpestris.

P. "caule monophyllo, folio ovato-lanceolato, racemis laxis, carinis capsularum muricatis." *Swartz sub Dendrobio.*

Epidendrum alpestre. *Swartz Prodr.* 125.
Dendrobium alpestre. *Swartz Fl. Ind. Occ.* 1545. *Willd. n.* 13.

Hab. in altissimis montibus *Jamaicæ* australis, super ramos arborum; *Swartz. (v. s. sp. in Herb. Banks. sine analysi.)*

Racemi folio sæpè longiores. Flores parvi, secundi, luteo-virides. Sepala lateralia semiconnata. Labellum ovatum, obtusum, concavum, minutum, atropurpureum; ex *Swartz.*

II. SPECKLINIA.

Sepala conniventia, æqualia, distincta: lateralibus basi saccatis extus gibbosis. Petala sepalis conformia triplo minora (nana). Labellum liberum petalis conforme basi saccatum. Columna nana, libera, membranaceo-alata. Anthera unilocularis (bilocularis *Hooker*), infrapicilaris. Pollinia 2, plano-convexa (4, *Hooker*).——Herbæ pusillæ, caulibus filiformibus monophyllis. Folia coriacea. Pedunculi axillares, capillares, pauciflori.

Obs. numerus Polliniorum fortè dubius; in S. floribunda certissimè 2 plano convexa in anthera uniloculari; in S. emarginata 4, per paria cohærentia secundum Hooker. Genus Pleurothalli proximum, numero polliniorum incerto, sepalis liberis basi saccatis præcipuè diversum.

Nomen in honorem Rodolphi Specklin sculptoris in ligno eximii, cujus icones plantarum pro ævo suo præstantissimæ in Fuchsii Historia stirpium, de Botanica optimè meruerunt.

1. SPECKLINIA sertularioides.

S. caulibus brevissimis, folio lanceolato subpetiolato, sepalis lanceolatis subpatentibus, pedunculis unifloris, rhizomate articulato.

Epidendrum sertularioides. *Swartz Prodr.* 123.
Dendrobium sertularioides. *Swartz ! Fl. Ind. Occ.* 1541. *Willd. n.* 11.
Pleurothallis sertularioides. *Spreng. syst.* 3. 731.

Hab. in arboribus densis antiquis montium *Jamaicæ; Swartz. (v. s. sp. in Herb. Banks.)*

Rhizoma Sertulariæ modo, articulatum, unde nomen. Pedunculi solitarii, capillares, longitudine ferè foliorum squamis spathaceis duabus in medio. Flores albidi, apicibus flavis. Labellum lanceolatum recurvum, basi concavum; ex *Swartz.*

2. SPECKLINIA Lanceola.

S. caulibus brevissimis, folio lanceolato subpetiolato, sepalis obtusis patentibus, petalis apice subciliatis, pedunculis bifloris.

Epidendrum lanceola. *Swartz Prodr.* 123.
Dendrobium lanceola. *Swartz ! Fl. Ind. Occ.* 1539. *Willd. n.* 10.
Pleurothallis lanceola. *Spreng. syst.* 3. 731.

Hab. super arbores in altissimis montibus *Jamaicæ* australis; *Swartz. (v. s. sp. in Herb. Banks.)*

Pedunculus capillaris, longitudine folii, squamis aliquot munitus. Flores fulvi v. aurantii, minuti. Labellum oblongum, obtusum, concavum, recurvum, purpureum, margine luteum; ex *Swartz.*
Obs. Rhizoma repens in exemplare Swartziano nullum.

3. SPECKLINIA emarginata.

S. caulibus folio oblongo emarginato subæqualibus, sepalis lanceolatis, pedunculis bifloris.

Epidendrum corniculatum. *Swartz Prodr.* 123.
Dendrobium corniculatum. *Swartz! Fl. Ind. Occ.* 1537. *Willd. n.* 9.
Epidendrum? monophyllum. *Hooker. Exot Fl. t.* 109.
Cymlidium corniculatum. *Spreng. syst.* 3. 722.

Hab. in *Jamaica; Swartz, Hooker. (v. s. sp. in Herb. Banks.)*

Pedicelli basi bracteâ cucullatâ suffulti. Sepala viridia. Petala duplò breviora mediò purpurea. Labellum purpureum, lineari-lanceolatum, basi gibbosum. Columna apice dentata. Ovarium purpureum, verrucosum, teste *Hookero.* Folia ovalia marginata, apice bifida. Scapus capillaris, uniflorus, foliis duplò longior; *ex exempl. Swartziano.*

4. Specklinia floribunda.

S. caule ancipiti folio oblongo-lanceolato duplò longiore, spicâ flexuosâ multiflorâ folio æquali, labello trilobo 2-cristato.

Dendrobium ophioglossoides. *Sieber. Fl. Martin. exsicc. n.* 206.

Hab. in *Martinica; Sieber. (habeo s. sp. communic. amiciss. Prescot.)*

Caules numerosi, erecti, cæspitosi. Folium apice integrum mucronulatum. Alabastra ovata. Sepala lanceolata: lateralibus basi saccatis carinatis. Petala spatulata, minora, denticulata. Labellum petalis æquale, trilobum, cristâ duplici membranaceâ longitudinali. Columna semiteres, clinandrio cucullato, membranaceo, anticè dentato. Anthera certo certius unilocularis, polliniis 2, plano-convexis, apice materie viscidâ cohærentibus.

? 5. Specklinia linearis.

S. caule ancipiti folio lineari-oblongo subtriplò longiore, spicis capillaribus bifloris: altero folio subæquali, altero duplò breviore.

Humboldtia purpurea. *Flora Peruv. syst! p.* 233.
Stelis purpurea. *Pers. syn.* 2. 524.

Hab. in *Mexico* et *Peruvia; Pavon. (v. s. sp. defloratum in Herb. Lambert.)*

Caules cæpitosi, 2-3-unciales. Folia uncialia, apice æqualia, obtusa.

III. OCTOMERIA.

Octomeria, *R. Br. in H. Kew. ed.* 2. *v.* 5. *p.* 211.

Sepala patentia, æqualia, basibus paulò connata, lateralibus cum basi lèviter productâ columnæ connatis sed nullo modo obliquis. Petala sepalis æqualia et conformia. Labellum basi saccatum, leviter trilobum, cum pede columnæ articulatum, patens. Columna semiteres, elongata, basi leviter et abruptè productâ, cum ovario continua, nec incumbens. Anthera terminalis, 4-locularis, cristâ callosâ. Pollinia 8, quaternatim cohærentia, collateralia (0000 0000).——Herbæ caulescentes, caulibus teretibus articulatis, vaginis fibrosis vestitis, monophyllis, (rarò foliosis). Folia coriacea. Flores axillares, fasciculati aut solitarii, (rarò terminales racemosi). Pedicelli bracteis imbricati.

This genus forms a transition from *Pleurothalleæ* to *Dendrobieæ.* The differences between it and Eria will be noticed in speaking of the latter genus, to which I have to add the remarkable circumstance of all the pollen masses being collateral and not lying in pairs upon each other, a fact which I have learned from Mr. Bauer's elaborate drawings. Dr. Hooker's figure in the Botanical Magazine, t. 2764, is at variance with this statement;—but I presume that excellent Botanist's specimens were in a very imperfect state, as I find in the same plate the anther, which in

the species represented by Dr. Hooker is unquestionably 4 celled with a fleshy crest, figured as absolutely bilocular without any crest.

1. Octomeria graminifolia. *R. Br.*

O. foliis solitariis lanceolatis, floribus axillaribus fasciculatis, labello ovato: lobis lateralibus abbreviatis intermedio bicostato tridentato, sepalis petalisque ovatis.

Helleborine graminea repens biflora. *Plum. sp.* 9. *ic.* 176. *f.* 1.
Epidendrum graminifolium. *Linn. sp. pl.* 1353.
Dendrobium graminifolium. *Willd. n.* 15.
Octomeria graminifolia. *R. Br. l. c. Hooker. Bot. Mag.* 2764.

Hab. in insulis *Caribæis. (v. v. cult.)*

Flores flavi, duabus maculis sanguineis, numero incerti, nunc solitarii, nunc binati ternative. Caules majores et crassiores quam in O. Baueri.

2. Octomeria Baueri.

O. foliis solitariis lanceolatis, floribus axillaribus fasciculatis, labello oblongo: lobis lateralibus sinuosis intermedio elongato apice flexuoso dilatato apiculato, sepalis petalisque ovatis.

Hab. in *India Occidentali.* Floruit in Horto regio Kewensi Martio 1817. *(V. ic. pict. cel. Baueri.)*

Flores albi apice flavi. Labellum maculis nullis.

This species and the foregoing so entirely resemble each other in habit, foliage and inflorescence, that it is in vain to seek to which of them the specific name graminifolia may with the greatest justice be applied. Mr. Brown's specific character is equally applicable to both, and any Botanist might be liable to confound them when dried. I have therefore retained the name for the species figured by Dr. Hooker, who may be considered as the first who really established the species with precision.

3. Octomeria serratifolia. *Hooker.*

O. foliis distichis apice serrulatis lineari-lanceolatis basi vaginantibus, racemo terminali paucifloro, labello oblongo-lineari crenulato: lobo intermedio abbreviato obtuso, sepalis petalisque lanceolatis.

Octomeria serratifolia. *Hooker. Bot. Mag.* 2823.

Hab. in montibus *Braziliæ. Hooker.*

Flores albi fulvo suffusi. Anthera secundum cl. Hooker 2-locularis, loculis *transversim* septulo divisis; (character insolitus!) An pollinia rectè visa? —ex habitu valdè suspicor generis esse diversi.

IV. LEPANTHES.

Lepanthes. *Swartz in act. Scient. Soc. Ups.* vi. *p.* 85; *Flora Ind. Occ. p.* 1555.

Sepala patula, basi, præsertim lateralia, connata. Petala duo, libera, nana. Labellum (secundum *Swartzium* nullum sed verosimiliter) apice bilobum cum columna connatum. Columna elongata, teres (secundum *Swartz.* bialata, sed alæ verosimiliter lobi labelli connati, cum auctor ille alas *L. cochlearifoliæ* et *tridentatæ* ad latera baseos columnæ describat). Pollinia 2. ——Herbæ epiphytæ, caulibus filiformibus monophyllis vaginatis, spicis axillaribus, Pleurothallis omnino. habitu. Flores lutei, v. sanguinei, minutissimi, columnâ semper sanguineâ.

Obs. Genus recognoscendum, Swartzio solo visum. Exemplaria omnium specierum extant in Herb. Banksiano sed deflorata. Pleurothalli valdè affine.

1. Lepanthes tridentata. *Swartz.*

L. "folio ovato acuto marginato apice tridentato; floribus basi triquetris, petalis (sepalis) acuminatis, alis columnæ erecto-incurvis." *Swartz. Fl. Ind. Occ. p.* 1561.

Epidendrum tridentatum. *Swartz Prodr. p.* 125.

Hab. cum L. pulchellâ; *Swartz. (v. s. sp. in Herb. Banks. sine floribus.)*

Flores purpureo-lutei.

2. Lepanthes pulchella. *Swartz.*

L. "folio subrotundo acuto; petalis (sepalis) acuminatis ciliatis: interioribus (petalis) utrinque acutis posticè cruciantibus." *Swartz Fl. Ind. Occ. p.* 1559.

Epidendrum pulchellum. *Swartz Prodr. p.* 125.

Hab. supra arbores inter muscos in altissimis montibus *Jamaicæ,* florens Julio et Augusto; *Swartz. (v. s. sp. in Herb. Banks. sine floribus.)*

Flores majores quam L. concinnæ, lutei, *Swartz.* Folium ex exemplare in Herb. Banksiano ovatum, acutum, potius quam subrotundum.

3. Lepanthes concinna. *Swartz.*

L. "folio ovato-acuminato; petalis (sepalis) subrotundis acutis; interioribus (petalis) posticè obtusis." *Swartz Fl. Ind. Occ. p.* 1557.

Epidendrum ovale. *Swartz Prodr. p.* 125.

Hab. in montibus altis cæruleis *Jamaicæ,* epiphyta florens vere; *Swartz. (v. s. sp. in Herb. Banks. sine floribus.)*

Flores flavi. Folia tricostata.

4. Lepanthes cochlearifolia. *Swartz.*

L. "folio orbiculato, convexo concavo." *Swartz Fl. Ind. Occ. p.* 1563.

Epidendrum cochlearifolium. *Swartz Prodr. p.* 126.

Hab. in truncis arborum nec non rupibus muscis vestitis in summis montibus *Jamaicæ* australis, florens ultimis mensibus anni; *Swartz. (v. s. sp. in Herb. Banks. sine floribus.)*

Flores sanguinei. Pollinium unicum! *Swartz.* Caulis squamis ovatis ciliatis plurimis vestitus.

V. STELIS.

Stelis. *Swartz in Schrad. Diar. Botan.* 1799. *p.* 239. *t.* 2. *f.* 3.

Sepala globoso-conniventia, æqualia, valvata, basibus subconnata. Petala nana. Labellum nanum petalis conforme. Columna nana, mutica, cum ovario continua. Anthera 1-locularis. Pollinia 2, ovata, cereacea, distincta, nunc ad apicem materie viscidâ cohærentia.——Herbæ epiphytæ habitu Pleurothallis.

1. STELIS ophioglossoides. *Swartz.*

S. folio tenui lanceolato apice sæpius recurvo, spicâ laxâ folio longiore: rachi rectâ, floribus cernuis quaquaversis obsoletè hexagonis, petalis truncatis, labello basi subcordato.

Epidendrum ophioglossoides. *Linn. sp. pl.* 1353. *Jac. Amer.* 225. *t.* 133. 2.
Epidendrum trigoniflorum. *Swartz Prodr.* 125.
Dendrobium ophioglossoides. *Swartz Nov. Act. Ups.* 6. 83.
Stelis ophioglossoides. *Swartz! Fl. Ind. Occ. t.* 1551. *Lindl. in Bot. Reg.* 935.

Hab. super arbores in sylvis montosis *Jamaicæ; Swartz.* (*v. s. sp. in Herb. Banks. et v. cult.*)

2. STELIS micrantha. *Swartz.*

S. folio oblongo-lanceolato coriaceo obtuso, spicâ folio duplò longiore: rachi rectâ, floribus nutantibus secundis trigonis, petalis apiculatis labello conformibus.

Epidendrum micranthum. *Swartz Prodr.* 125.
Stelis micrantha. *Swartz! Fl. Ind. Occ.* 1553. *Willd. n.* 2. *Hooker. Fl. exot. t.* 158.
Humboldtia parviflora. *Fl. Peruv! syst. p.* 236.
Stelis parviflora. *Pers. syn. no.* 8.

Hab. super arbores adque latera rupium in altis montibus *Jamaicæ; Swartz;* in *Peruvia; Pavon.* (*v. s. sp. in Herb. Banks. et Lambert. et v. cult.*)

Dr. Hooker represents the pollen masses as cohering by means of a transparent gland. This is however clearly a mistake.

3. STELIS pusilla. *Kunth.*

S. " spica solitaria folium lanceolatum acutum coriaceum duplò superante, floribus subnutantibus: foliolis calycinis exterioribus subrotundis obtusis trinerviis subæqualibus." *Kunth. in Humb. et Bonpl. n. g. et sp. pl.* 1. 361. *Synops.* 1. 344.

Hab. in Regno *Quitensi,* alt. 1230 hex. florens Maio; Humboldt et Bonpland.

4. STELIS carnosa. *Kunth.*

S. " spica solitaria cylindracea folium oblongum obtusum subcarnosum duplò superante; floribus approximatis erectiusculis; foliolis calycinis exterioribus ovato-subrotundis enerviis subæqualibus." *Kunth. l. c. Synops.* 1. 344.

Hab. in Provincia *Jaen de Bracamoros,* alt. 1000 hex. florens Augusto; Humboldt et Bonpland.

5. STELIS floribunda. *Kunth.*

S. " spicis subquaternis folio oblongo obtuso coriaceo duplò longioribus; floribus subnutantibus; foliolis calycinis exterioribus ovatis acutiusculis trinerviis internè pubescentibus subæqualibus." *Kunth. l. c. Synops.* 1. 344.

Hab. in Andibus *Popayanensium,* alt. 1210 hex. florens Novembri; Humboldt et Bonpland.

An Humboldtia polystachya R. et P. *Kunth.*

6. STELIS angustifolia. *Kunth.*

S. " spicis subgeminis folium oblongo-lanceolatum obtusiusculum subcoriaceum æquantibus; floribus subnutantibus; foliolis calycinis exteriori-

bus ovatis acutiusculis trinerviis internè pubescentibus subæqualibus." *Kunth. l. c. Synops.* 1.345.

Hab. in Regno *Novo Granatensi,* regione temperata alt. 1004 hex. florens Decembri; Humboldt et Bonpland.

An eadem ac. S. floribunda? *Kunth.*

7. Stelis elongata. *Kunth.*

S. " spica solitaria folium lanceolatum obtusum subcoriaceum quadruplò superante; floribus nutantibus; foliolis calycinis exterioribus oblongis obtusis trinerviis: superiore cæteris longiore." *Kunth. l. c. Synops.* 1.345.

Hab. in Provincia *Popayanensi,* alt. 480 hex. florens Novembri; Humb. et Bonpl.

8. Stelis alba. *Kunth.*

S. " spica solitaria folium oblongum acutiusculum subcoriaceum duplò superante; floribus nutantibus; foliolis calycinis exterioribus ovato-oblongis acutis subæqualibus." *Kunth. l. c. Synops.* 1.345.

Hab. in Prov. *Popayanensi,* alt. 1400 hex. florens Novembri; Humb. et Bonpl.

9. Stelis macrocarpa. *Kunth.*

S. " spicis subgeminis folio oblongo obtuso subcoriaceo duplò longioribus; floribus subnutantibus; foliolis calycinis exterioribus subrotundo-ovatis acutiusculis subquinquenerviis subæqualibus." *Kunth. l. c. Synops.* 1.345.

Hab. in Regno *Novo Granatensi,* alt. 1360 hex. florens Decembri; Humb. et Bonpl.

Steles omnes alias Willdenovii, sive *Humboldtias* Floræ Peruvianæ, prætermitto, prout inextricabiles, et descriptionibus miserrimis fretas, omnino Botanices indignis. Species 6 enumerantur, Peruviæ propriæ.

VI. OSYRICERA.

Osyricera. *Blume Bijdr.* 307. *Tabellen* 58.

Sepala subringentia ad basin subconnata: lateralibus omnino concretis. Petala minora. Labellum ventricosum, indivisum cum columnæ ungue calloso articulatum; limbo convexo glanduloso. Columna brevis apice bialata: alis tricuspidatis. Anthera semibilocularis, antea in laminam glandulosam expansa. Pollinia 2, ovalia, pulposo-cereacea.——Herba epiphyta. Folia lineari-lanceolata, pseudobulbis moniliformibus suffulta. Spicæ radicales. Flores purpurescentes. *Character ex Blume.*

1. Osyricera crassifolia. *Blume l. c. tab.* 58.

Hab. in arboribus ad montem Salak, Insulæ *Javæ,* florens Decembri, Januario; Blume.

VII. CHRYSOGLOSSUM.

Chrysoglossum. *Blume Bijdr.* 337. *Tabellen* 7.

Sepala ringentia, basi leviter coalita: lateralibus exterioribus labello suppositis. Petala subæqualia. Labellum basi auriculatum, ungui columnæ

calloso elasticè affixum, internè lineis prominentibus cristatum: limbo sublobato patente. Columna cum ovario continua, utrinque cornuta, basi alata et callosa. Anthera bilocularis. Pollinia 2, subglobosa, angulata, libera.——Herbæ terrestres. Radices annulatæ repentes, fibrillatæ. Folia petiolis subbulbosis suffulta, subsolitaria. Pedunculi radicales. Flores laxè spicati, pedicillati, bracteati. *Character ex Blume.*

1. Chrysoglossum ornatum. *Blume.*

C. "foliis lanceolatis pedunculisque glabris, labelli lobis rotundatis: medio fornicato." *Blume l. c.*

Hab. in montosis Salak, ad ripas fluvii Tjapus insulæ *Javæ,* florens Decembri; Blume.

2. Chrysoglossum villosum. *Blume.*

C. "foliis ovato-oblongis pedunculisque villosiusculis, labelli lobis lateralibus acutis." *Blume l. c. tab. 7.*

Hab. in umbrosis montis Gede, insulæ *Javæ,* florens Maio; Blume.

VIII. GASTROGLOTTIS.

Gastroglottis. *Blume Bijdr.* 397.

Sepala patentia: lateralibus latioribus labello suppositis basique connatis. Labellum ventricosum, infernè cum columna connatum: limbo erecto, semitrifido. Columna supernè libera, cum ovario continua, apice attenuata. Anthera dorsalis, bilocularis, denticulo dorsali affixa. Pollinia 4, obovata, per paria filis glutinosis cohærentia.——Planta terrestris. Radices fibrosæ. Caulis simplex erectus. Folia oblongo-lanceolata, plicata. Pedunculus terminalis, elongatus, supernè multiflorus. Flores parvi, sessiles, bracteolati, flavo-virentes. *Char. ex Blume.*

Microstyli proxima sec. Blume.

1. G. montana. *Blume.*

Habitat inter lapides ad marginem fluvii Tjapus, *Javæ,* florens Decembri; Blume.

IX. RESTREPIA.

Restrepia. *Kunth. n. g. et sp.* 1. 367.

Sepala patentia: supremo acuminatissimo, duobus inferioribus obtusis connatis. Petala libera, sepalo supremo conformia. Labellum integrum, liberum, patens, basi bicorne. Columna semiteres. Anthera terminalis. Pollinia 4.——Arborum incola, caulescens, caule haud incrassato, squamis magnis vaginato. Folia plicata. Flores solitarii axillares. *Character ex Kunthio.*

1. Restrepia antennifera. *Kunth.*

Restrepia antennifera. *Kunth. in Humb. et Bonpl. n. g. et sp. pl.* 1. 367. *t.* 94. *Synops.* 1. 347.

Hab. in declivitate *Andium Paruguayensium,* inter Almaguer et Pasto, ad arborum vetustarum truncos alt. 1480 hex. (Regno Novo Granat.) florens Novembri; Kunth.

Folia subrotundo-ovata membranacea petiolo canaliculato. Labellum oblongo-lineare emarginatum seriebus 4 tuberculorum.

X. OBERONIA.

Sepala patentia v. reflexa, sæpius inter se æqualia, libera. Petala sepalis minora, nunc iis conformia, nunc linearia, aliquandò erosa. Labellum ascendens, cum columnâ haud articulatum, formâ variâ, sæpius elongatum, semper magis minusve distinctè 4-lobum : lobis lateralibus nunc dentiformibus, intermediis quandoque ferè connatis. Columna minima, libera, stigmate elevato. Anthera bilocularis. Pollinia duo, pyriformia, solida. —Herbæ supra arbores et saxa crescentes, sæpius acaules, foliis semper distichis. Scapus sæpius anceps. Flores nunc racemo longissimo verticillati, nunc alterni, virides v. lutei.

This genus is nearly related to Stelis from which it is obviously distinguished by its labellum, and its habit. From Pleurothallis to which one species has been lately referred it is distinguished both by its habit and by its lateral sepals not cohering in any degree.

Ut Oberon, regiolus ille Dryadeus, Empusarum septentrionalium princeps, in ramos arborum equitat, inter folia vultum multiformem abscondens, sic herbiolæ nostræ, facie non minus mutabiles, in Indiæ sylvis latitant v. in curru suo frondoso triumphant.

1. Oberonia iridifolia. *Lindl. in Wall. Cat. no.* 1948.

O. foliis latis ensiformibus, racemo longo basi ancipiti multifloro, floribus verticillatis, bracteis fimbriatis, sepalis reflexis, petalis erosis, labello subovato obtuso fimbriato basi concavo, obsolete 4-lobo.

Malaxis ensiformis. *Smith.*
Cymbidium iridifolium. *Roxb! Hort. Bengal. p.* 63.

Hab. in *Zeylona* supra arbores, *Macrae;* in *Otaheite, J. Banks;* in *Indiæ Orientalis* agro Napalensi et Sillet. *Wallich.* (*hab. s. sp. e museo Anglo-Indico; etiam e Zeylona.*)

Planta statura variabili nunc 3-unciali nunc sesquipedali. Folia ensiformia, recta, Iridis cujusdam facie, racemo, nunc longissimo, nunc abbreviato, nutante v. pendulo. Flores numerosissimi, lutei, verticillati, bracteis fimbriatis; quâ notâ semper, quin defloratâ dignoscatur. Sepala arctè reflexa, ovata, æqualia. Petala minora reflexa. Labellum erectum, marginibus fimbriatis involutis, ita ut primâ fronte integrum videtur (intus barbatum ex Roxb. mss.) Capsulæ parvæ obovatæ angulis 6 elevatis.

2. Oberonia longibracteata.

O. foliis rectis ensiformibus racemo nutanti subæqualibus, scapo ancipiti, bracteis subulatis floribus multò longioribus, labello truncato utrinque lobato.

Hab. in *Zeylona* supra rupes, *Macrae* (*hab. s. sp. et v. ic. pict.*)

O. iridifoliæ similis quâ differt foliis magis carnosis, bracteis petalisque integerrimis, floribus non verticillatis, demum labelli formâ. Racemus minus elongatus. Flores virides.

3. Oberonia caulescens. *Lindl. in Wall. Cat. no.* 1950.

O. caulescens, foliis ensiformibus angustis subfalcatis, racemo subflexuoso apice evanescente, floribus alternis, labello elongato cuneato bilobo basi carnoso obtusè bidentato.

Hab. in *Napalia; Wallich.* (*hab. s. sp. e museo Anglo-Indico*).

4. Oberonia anthropophora. *Lindl. in Wall. Cat. no.* 1951.

O. foliis ensiformibus subfalcatis, spicâ nutante apice evanescente, floribus verticillatis, petalis linearibus, labelli trilobi lobo medio elongato bifido.

Hab. in Tavoy, *Indiæ Orientalis; Wallich.* (*hab. s. sp. e museo Anglo-Indico.*)

Flores minutissimi. Sepala æqualia ovata obtusa. Labellum basi concavum lobis lateralibus brevibus semiovatis acutis.

5. Oberonia bicornis. *Lindl. in Wall. Cat. no.* 1949.

O. foliis brevibus subundulatis ovatis, racemis multifloris nutantibus, floribus subverticillatis, petalis ovatis, labello truncato sublunato basi bicorni, sepalis patentibus lateralibus brevioribus.

Hab. in Sillet. *Indiæ Orientalis; Wallich.* (*hab. s. sp. e museo Anglo-Indico.*)

Herba floribunda, cæspitosa, foliis subundulatis. Racemi numerosi, apice recurvi. Sepalum supremum ovato-lanceolatum, lateralibus multo brevioribus ovatis. Petala minora, ovata, acuta. Labellum breve, cucullatum, truncatum, basi in cornubus duobus membranaceis, utroque costâ mediâ elevatâ ad basin connatâ instructo.

6. Oberonia brevifolia.

O. foliis brevibus ovatis, racemo stricto, labello oblongo basi cucullato apice crenulato, bracteis ovali-lanceolatis ovarii longitudine.

Epidendrum equitans. *Forst! Prodr. n.* 316.
Cymbidium equitans. *Swartz. n. act. Ups.* 6. *p.* 72. *Willd. n.* 14. *Thouars, t.* 92.
Pleurothallis disticha. *Act. Rich. orch.* 55. *t.* 8. *f.* 1.

Hab. in *Societatis insulis, Forster; Mauritii* et *Borboniæ,* Thouars. (*v. s. in herb. Lambert. a Forstero ipso, et examinavi.*)

Hujus loci procul dubio est Ep. equitans, *Forst.* ut e speciminibus patet in Herb. Lamb. asservatis. Cum tamen C. equitans *Herb. Banks.* sit O. iridifolia, *Wallichii* O. caulescens, *Blumii* O. spatulata, et folia totius generis sint equitantia, nomen specificum mutare ausus sum.

7. Oberoria Myosurus. *Lindl. in Wall. cat. no.* 1947.

O. foliis carnosis linearibus rectis racemo æqualibus, capsulis sphæricis hexangularibus, floribus . . . .

Epidendrum Myosurus. *Forst! Prodr. n.* 317.
Dendrobium Myosurus. *Swartz. n. act. Ups.* 6. 82. *Willd. n.* 4.

Hab. in *Societatis insulis, Forster;* in *Napalia, Wallich.* (*v. s. in Herb. Banks. et hab. s. sp. e museo Anglo-Indico, omnibus defloratis.*)

Herba parva, vix 4 uncias altitudine attingens, foliorum formâ et racemo brevi præcipuè distinctum floribus ignotis. Folia ferè semper emarginata v. truncata sunt; hoc tamen casu quodam, potiusquam naturâ, accidisse opinor.

8. Oberonia spatulata.

O. "caule simplici folioso, foliis ensiformibus ad medium ferè vaginatis approximatis rectis aut recurvis, labelli limbo spatulato emarginato." *Blume.*

Malaxis equitans. *Blume p.* 395.

Hab. in truncis arborum Provinciarum occidentalium *Javæ* insulæ, florens Septembri; Blume.

9. Oberonia lunata.

O. " foliis paucis ensiformibus basi vaginatis subincurvis, labelli limbo semilunato denticulato, capsulis oblongis." *Blume.*

Malaxis lunata. *Blume p.* 394.

Hab. in arboribus sylvarum montis Salak, *Javæ*, florens Octobri Februario; Blume.

10. Oberonia monstruosa.

O. " caule simplice lato-folioso, foliis remotis ensiformibus subincurvis, spicâ elongatâ densiflorâ." *Blume.*

Malaxis monstruosa. *Blume p.* 395.

Hab. locis umbrosis ad montem Pantjar, *Javæ*, frugens Junio; Blume.

" Species singularis O. equitanti affinis."

11. Oberonia imbricata.

O. " caule simplice folioso, foliis compressis vaginatis confertè imbricatis, labelli limbo ligulato denticulato." *Blume.*

Malaxis imbricata. *Blume p.* 395.

Hab. in sylvis humidis montium Gede, Salak, &c. *Javæ*, florens Septembri Decembri; Blume.

12. Oberonia microphylla.

O. " subcaulescens, foliis paucis angusto-ensiformibus basi vaginatis subincurvis, sepalis interioribus erosis, labelli limbo producto rotundato emarginato." *Blume.*

Malaxis microphylla. *Blume p.* 395.

Hab. in elatis montis Salak, *Javæ*, florens Junio; Blume.

" Flores miniati. Capsulæ triquetræ."

13. Oberonia similis.

O. " foliis paucis ensiformibus basi vaginatis subrectis, labelli limbo semitrifido eroso: lobo medio elongato bifido, capsulis obovato-globosis." *Blume.*

Malaxis similis. *Blume p.* 394.

Hab. in arboribus sylvarum montis Salak, *Javæ*, florens Januario, &c. Blume.

" Ab O. lunata differt foliis angustioribus minus arcuatis, labelli et capsularum forma." *Blume.*

XI. EMPUSA.

Empusa, *Lindl. in Bot. Reg.* 825.——Empusaria, *Reichenbach Conspectus p.* 69.

Sepala patentia; lateralia basi inæqualia, cum basi labelli obliquè connata eoque supposita; supremum et petala linearia patentia. Labellum erectum, cucullatum, basi auriculatum, cum columna connatum, bituberculatum, limbo patente indiviso. Columna elongata, semiteres, arcuata, apice utrinque alata. Anthera bilocularis. Pollinia 4, collateralia (oo oo).—Herba epiphyta, foliis membranaceis plicatis, racemo terminali multifloro.

1. Empusa paradoxa. *Lindley.*

Malaxis lancifolia. *Smith! in Rees.*
Empusa paradoxa. *Lindl. in Bot. Reg.* 825. *Wall. Cat. Herb. Ind. no.* 1937.

Hab. supra arbores ad Tokam *Napaliæ*, etiam in *Kamoon*, *Wallich*. (*hab. s. sp. e museo Anglo-Indico*).

Caulis pedalis et ultra, angulis membranaceis. Folia elliptico-oblonga, plicata, acuminata, 6-8 pollices longa. Racemus terminalis, 5-6 pollices longus, multiflorus. Flores ochroleuci, inodori. Sepala lateralia semiovata, obtusa, obliquè cum basi labelli accreta eoque supposita: supremum lineare duplò longius. Petala linearia reflexa. Labellum retusum cum mucrone.

XII. PLATYSTYLIS.

Malaxis § 2. Platystylis. *Blume Bijdr. p.* 389. *tabell. f.* 54.

Sepala patentia, libera; lateralia labello supposita, supremo angustiora. Petala filiformia. Labellum ascendens, indivisum, medio sulcatum, etuberculatum. Columna dilatata, compressa, erecta, disciformis, stigmate marginato. Anthera parva bilocularis. Pollinia 4, collateralia.—Herbæ epiphytæ, habitu Liparis veræ.

1. PLATYSTYLIS decurrens.

P. " bulbis ovatis compressis, foliis binis lanceolatis carinatis, pedunculo nutante, bracteis ovatis decurrentibus, labello utrinque dente instructo, limbo ovato convexo." *Blume.*

Malaxis decurrens. *Blume p.* 390, *tab.* 54.

Hab. in truncis arborum ad montem Salak, *Javæ*, florens Maio Octobri; Blume.

" Flores dilutè aurantiaci. Sepala margine recurvata, papillosa. Labellum internè glandulâ excavatâ munitum." *Blume.*

2. PLATYSTYLIS atropurpurea.

P. " bulbis ovatis compressiusculis vaginatis, foliis binis ovatis, pedunculo erecto pentagono, bracteis lineari-lanceolatis carinatis, labelli limbo emarginato cum mucrone." *Blume.*

Malaxis atropurpurea. *Blume p.* 390.

Hab. in paludosis montis Salak, *Javæ*, florens Octobri; Blume.

" Flores atropurpurei, in summo pedunculo conferti; sepala exteriora trinervia; labellum margine ciliolatum." *Blume.*

XIII. MICROSTYLIS.

Microstylis, *Nutt. gen. Amer.* 2. 196. *Lindl. orch. scel. no.* 135.—Crepidium, *Blume Bijdr.* 387. *tabell. fig.* 63.

Sepala patentia, libera; lateralia basi æqualia, sæpius breviora. Petala patentia, linearia v. filiformia. Labellum patentissimum, cum columnâ angulum rectum formans, basi excavatum, sagittatum v. auriculatum, integerrimum v. dentatum, tuberculis nullis. Columna minima, rarò paululum elongata, apice dentibus s. auribus duabus instructa. Anthera bilocularis. Pollinia 4, collateralia.—Herbæ terrestres v. epiphytæ habitu Liparis, foliis plicatis v. membranaceis basi rarò incrassatis. Flores herbacei, nunc flavescentes v. discolores.

1. Microstylis monophyllos.

M. caule unifolio, racemo rarifloro, labello acuminato integerrimo.

Ophrys monophyllos. *Linn.*
Epipactis folio unico, &c. *Hall. Helv. t.* 36.
Monorchis ophioglossoides. *Mentzelius pug. t.* 5. *f.* 1. 2.
Malaxis monophyllos. *Willd. no.* 4.

Hab. in *Europæ* paludibus, sylvaticis, alpestribusque; etiam in *America septentrionali* propè Halifax; *Gouldie* (*hab. s. sp.*)

Variat foliis binis, *Swartz in Fl. Ind. Occ. p.* 1443; quæ *Ophrys bifolia,* Flora Suecica 2. 811.

2. Microstylis ophioglossoides. *Nuttall.*

M. caule unifolio, racemo obtuso capitato multifloro, labello tridentato. *Lindley in Botanical Register, fol.* 1290.

Malaxis unifolia. *Michaux.*
Malaxis ophioglossoides. *Willd. no.* 3. *Lodd. Bot. Cab. t.* 1116 bona.
Microstylis ophioglossoides. *Nutt. gen.* 2. 196.

β; *mexicana;* caule pedali, racemo densiore, labelli dente mediâ lateralibus minore. *Bot. Reg. t.* 1290.

Hab. in *America septentrionali* ad radices arborum, in Canada (*Gouldie*), Nova Scotia (*Menzies*), New Jersey (Nuttall)—β in *Mexico.* (*hab. s. sp.; β. hab. s. sp. et v. v. c.*)

Varietas Mexicana vix differt nisi staturâ majore; eadem habet folium solitarium oblongum atroviride, eundem racemum depressum quasi umbellatum demum in cylindrum abeuntem, eosdem flores cum eodem labello truncato equitante cujus dens intermedia lateralibus minor.

3. Microstylis diphyllos.

M. "foliis duobus ovatis lanceolatisve acutis lævibus, scapo triquetro, labello subrotundo acuminato, acumine lacinias haud superante." *Chamisso.*

Malaxis diphyllos. *Chamisso in Linnæa* 3. 34.

Hab. "in turfosis convallium infimorum *Unalaschkæ* solitariò proveniens;" Chamisso.

4. Microstylis umbellulata.

M. caule diphyllo, foliis ovato-lanceolatis acuminatis margine subundulatis longissimè vaginantibus reticulato-venosis, floribus umbellatis.

Malaxis umbellulata. *Swartz! Prodr. p.* 119. *Fl. Ind. Occ. p.* 1444. *Willd. no.* 2.

Hab. nemorosa subhumida in montibus altis *Jamaicæ* australis; *Swartz.* (*v. s. sp. in Herb. Banks.*)

Scapus pentagonus. Flores Microstylis spicatæ. (ex Swartz). Inflorescentia M. ophioglossoidis junioris.

5. Microstylis spicata.

M. caule diphyllo, foliis cordatis, scapo tetragono, labelli trilobi lobo medio elongato.

Malaxis spicata. *Swartz! Prodr. p.* 119. *Flora Indiæ Occ. p.* 1441. *t.* 28. *figg. a. b. c. Willd. no.* 1.

Hab. in locis depressis montium *Jamaicæ; Swartz.* (*v. s. sp. in Herb. Banks.*)

Scapus pedalis. Spica 2-3 pollicaris, floribus approximatis magnitudine Malaxis paludosæ, pallidè virentes. Capsula tricarinata. *Swartz.*

6. MICROSTYLIS Wallichii. *Lindl. in Wall. Cat. no.* 1938.

M. caule folioso, foliis oblongis acuminatis, racemo elongato rarifloro, sepalis oblongo-linearibus, petalis filiformibus supremo brevioribus, labello ovali apice leviter bifido.

Hab. in *Napalia* et *Sillet, Indiæ Orientalis, Wallich.* (*hab. s. sp. e Museo Anglo-Indico benignè communicatum*).

In sicco folia semper discoloria, dum in M. biloba vicina sunt pallidè viridia. Flores lividi ex icone et schedis Wallichianis.

7. MICROSTYLIS biaurita. *Lindl. l. c. no.* 1941.

M. caule folioso, foliis ovato-oblongis acuminatis, racemo denso multifloro, labello acuminato obtuso integerrimo basi bicristato, columnæ alis petaloideis, sepalis lateralibus petalisque secundis.

Hab. in Pundua, *Indiæ Orientalis; Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Spithamæa, racemo ultra folia paulò evecto.

8. MICROSTYLIS biloba. *Lindl. l. c. no.* 1940.

M. caule folioso, foliis oblongis acuminatis, racemo elongato rarifloro, sepalis oblongis, petalis linearibus truncatis supremo æqualibus, labello ovato apice bilobo: sinu aperto.

? Malaxis acuminata. *Don. Prodr.* 29.

Hab. in *Napalia* et *Ava, Indiæ Orientalis, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Herba gracilis pedalis. Flores verosimiliter flavescentes. M. Wallichii valdè affinis characteribus datis abundè diversa.

9. MICROSTYLIS discolor.

M. caule folioso, foliis ovato-oblongis abruptè petiolatis undulatis plicatis, labello ovato integerrimo basi cucullato, columnâ apice bicorni, sepalis petalisque secundis.

Hab. in pratis apricis ad latera collium *Zeylonæ,* florens Julio; *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Herba 6 uncias alta, foliis purpureis, floribus luteis in purpureo mutabilibus.

10. MICROSTYLIS purpurea.

M. caule folioso, foliis ovato-oblongis abruptè petiolatis plicatis, labello bifido acuminato basi longè equitante, sepalis obtusis, petalis linearibus truncatis, columnâ apice apterâ.

Hab. in umbrosis ad ripas fluminum *Zeylonæ,* florens Septembri; *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Caulis pedalis pentaphyllus, racemo denso ovato, floribus atropurpureis.

11. MICROSTYLIS flavescens.

M. " foliis ovato-lanceolatis, labello integerrimo." *Blume.*

Crepidium flavescens. *Blume p.* 388.

Hab. in cacumine montis Burangrang Provinciæ Krawang insulæ *Javæ,* florens Junio; Blume.

An eadem ac Microst. discolor.

12. Microstylis versicolor.

M. caule folioso, foliis cordato-v. ovato-oblongis abruptè petiolatis undulatis plicatis, labello transverso anticè dentato basi cucullato parum equitante, columnâ apice bicorni, sepalis petalisque secundis.

Hab. in *India Orientali, Hayne* in Museo Anglo-Indico; in pratis apricis ad latera collium *Zeylonæ*, florens Julio; *Macrae.* (*hab. s. sp. et v. ic. pict.*)

M. Rheedii valdè affinis, sed distincta staturâ minore, foliorum formâ et florum magnitudine. Illius equidem analysis me fefellit, diversas tamen esse proculdubio existimo. Flores lutei in purpureo mutabiles.

I do not think there are any materials in this country sufficient for determining exactly what the Malaxis Rheedii of Swartz is, or rather the Basaala Poulou-Maravara of the Hortus Malabaricus upon which that species was founded. Of a Microstylis from India answering to Rheede's figure I have seen no specimen. The Epidendrum resupinatum of Forster which is referred to it as a synonym, exists in the Banksian Herbarium, and there is also a drawing of that species in the same collection, and these agree extremely well with the Hortus Malabaricus figure: but they are undoubtedly distinct from M. versicolor in their greater size and much larger oblong-lanceolate leaves. Their flowers I have not analysed, but if the Crepidium Rheedii of Blume belongs to Malaxis Rhedii, which I scarcely doubt, the flowers are essentially distinct also.

13. Microstylis Rheedii.

M. caule folioso, foliis oblongo-lanceolatis plicatis, labello truncato dentato basi longè equitante.

Epidendrum resupinatum. *Forst.!* fide iconis Forsterianæ in Bibliotheca Banksiana.
Malaxis Rheedii. *Willd. no.* 5.
? Crepidium Rheedii. *Blume p.* 387. *f.* 63.

Hab. in *India Orientali,* Rheede; in sylvis opacis *Javæ,* Blume; in insula *Otaheite; Banks. Forster.* (*v. s. sp. deflor. in Herb. Banks.*)

Variat foliis purpurascentibus et viridibus. *Blume.*

Obs. Columna apice alata diptera, alis subquadratis, si planta Blumii eadem: specimina in Herb. Banks. deflorata nihil docent.

† 14. Microstylis? macrostachya.

Ophrys macrostachya. *Llave nov. veg. Mex.* 2. 9.

"Planta terrestris habitu gracilis. Radix bulbo unico oblongo. Folium unicum, radicale, ovatum, vaginans, uninerve; squamulæ foliaceæ basin amplectentes. Scapus tetragonus, longissimus, erectus. Flores spicati, sessiles, conferti, bracteis linearibus cincti. Perigonium herbaceum, 5-fidum. Segmenta tria exteriora ovata, patentia; duo lateralia angustiora lunulata. Labellum concavum, subrotundum, concolor, obtusè acuminatum. Gynostemium brevissimum. Anthera bilocularis ad apicem. Pollinis massulæ duæ minutissimæ. Stigma non aspectabile." *Llave l. c.*

Hab. in *Mexico* propè Jesus del Monte, juxta Vallisoletum, florens Augusto; Llave.

XIV. DIENIA.

Dienia, *Lindley in Bot. Reg.* 825. Pedilea, *Lindl. in Hook. Fl.* 115. *in notis. Orch. scel. no.* 144. *c. ic.*

Sepala patentia, libera; lateralia basi æqualia sæpius breviora. Petala filiformia patentia. Labellum erectum, basi cum columna accretum, etuberculatum, nunc concavum membranaceum acutè trilobum, nunc excavatum margine callosum apice trilobum, v. integrum. Columna elongata, semiteres, recta, clavata, cum labello concavo minutissima. Anthera bilocularis. Pollinia 4, collateralia (oo oo).—Herbæ terrestres, foliis basi parum incrassatis, membranaceis, plicatis. Scapus teres v. saltem apterus. Flores parvi, herbacei v. fusci, racemosi, v. spicati, terminales, angulis fructus sæpè crispis.

This genus differs from Liparis chiefly in the shortness and straightness of the column connected with a three lobed concave erect or excavated lip, which is scarcely recurved about the middle, and which has never any tubercles at its base. The column of Liparis is always arcuate. From Microstylis, with which it agrees in the shortness of the column, it is distinguished by its lip being parallel with the column, not at right angles with it, and neither sagittate nor cordate at the base.

1. Dienia congesta. *Lindley in Wall. Cat. no.* 1936.

D. caule folioso, foliis oblongo-lanceolatis acuminatis plicatis, spicâ densâ cylindraceâ, perianthii laciniis secundis, labello oblongo excavato apice calloso tridentato: dentibus obtusis intermedio ovato.

Malaxis latifolia. *Smith! in Rees.*
Dienia congesta. *Lindl. in Bot. Reg.* 825.

Hab. in *Napalia, Wallich*; in *Chinâ, Reeves.* (*hab. s. sp. e Museo Anglo-Indico; v. ic. pict. sinens. in Bibl. Hort. Soc.*)

Planta terrestris pedalis v. ultra. Scapus apice spicatus, floribus luteo viridibus, minutis, densis, in cylindrum collectis. Sepala lineari-lanceolata obtusa; lateralibus a labello recurvis. Petala filiformia patentia. Labellum cum columna parallelum, excavatum, cucullatum, apice callosum tridentatum, dentibus obtusis, intermedio ovato. Columna semiteres excavationis labelli longitudine, apice bialata. Ovarium et capsula angulis membranaceis undulatis.

2. Dienia fusca.

D. caule folioso, foliis oblongo-lanceolatis petiolatis acuminatis plicatis, spicâ densâ ovatâ cylindraceâ, perianthii laciniis secundis, labello subrotundo excavato apice calloso tridentato vix cucullato: dentibus obtusis intermedio conico.

Hab. in *Zeylona* in montibus, *Macrae* (*hab. s. sp. et v. ic. pict.*)

Priori valdè affinis. Flores fusco-purpurei.

3. Dienia cylindrostachya. *Lindl. l. c. no.* 1934.

D. caule unifolio, folio ovato obtuso, spicâ densâ cylindraceâ, perianthio explanato, labello excavato apice calloso subintegro, columnâ brevissimâ.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Planta habitu Microstylis monophyllæ sed floribus densioribus distinguenda. Palmaris v. sesquipedalis. Perianthium explanatum. Sepala ovata

acuta. Petala filiformia. Labellum ovatum, excavatum, basi subcucullatum, apice callosum obtusum obsoletè trilobum. Columna brevissima.

4. Dienia muscifera. *Lindl. l. c. no.* 1935.

D. caule diphyllo, foliis latis oblongis obtusis, racemo rarifloro, perianthio explanato, labelli trilobi laciniâ mediâ sepalisque lateralibus acuminatis, columnâ brevissimâ.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

D. Gmelini valdè affinis sed omnibus partibus major. Pedalis v. sesquipedalis. Folia multò latiora. Racemus rariflorus, aliquando 9 uncias longus. Flores herbacei. Sepala lateralia acuminata ovato-lanceolata: supremum acutum. Labellum posticum, cucullatum, medio tricostatum, margine calloso, dentibus lateralibus abbreviatis, intermedio acuminato. Capsulæ oblongæ, membranaceæ, apteræ.

5. Dienia Gmelini.

D. caule diphyllo, foliis oblongis obtusis, racemo rarifloro, perianthio explanato, labelli trilobi laciniis acutis, columnâ brevissimâ.

Orchis radice subrotunda, labello hastato. *Gmelin! sib.* 1. 18. *t.* 4 *f.* 1. bona.

Hab. in *Sibiria; Gmelin.* (*hab. s. sp.*)

Sepala ovata acuta. Petala filiformia sepalo supremo æqualia. Labellum cucullatum, posticum, concavum, non excavatum, tridentatum, dentibus acutis: lateralibus multò minoribus. Scapus 9 uncias altus. Flores minutissimi herbacei.

Debeo benevolentiæ amicissimi Prescot.

6. Dienia calycina.

D. caule monophyllo, folio oblongo obtusiusculo, spicâ elongatâ tereti, sepalis subrotundo-ovatis petalisque linearibus patentibus, labelli nani cuneati trilobi lobis lateralibus incurvis intermedio ovato patente, columnâ brevissimâ.

Ophrys monophyllos. *Pavon. in Herb. Lambert.*

Hab. in *Mexico; Pavon.* (*exam. s. sp. in Herb. Lamb.*)

Sesquipedalis, gracilis. Capsulæ obovatæ, obtusangulæ.

7. Dienia Myurus.

D. caule folioso, foliis binis inferiore oblongo obtuso: superiore ovato, spicâ densâ cylindraceâ, labello ovato excavato integro, petalis filiformibus reflexis.

Pedilea. *Lindl. orch. scel. no.* 144. *p.* 27. *c. ic.*

Hab. in *Mexico; Pavon.* (*exam. s. sp. in Herb. Lambert.*)

Habitus quodammodo Microstylis ophioglossoidis. Caulis pedalis. Flores minimi, virides. Pollinia 4, per paria cohærentia, olim malè visa et pro 2 habita; unde genus nostrum spurium Pedilea.

XV. MALAXIS.

Malaxis, *Swartz act. Holm.* 1800. *p.* 233. *t.* 3. *P.*

Sepala patentia, libera, subæqualia. Petala sepalis duplò minora, conformia. Labellum posticum, ascendens, concavum, integerrimum, etuberculatum, petalis conforme. Columna minima, teres, apice utrinque dentata.

Anthera bilocularis. Pollinia 4 incumbentia (8 8).—Herba paludosa, foliis paucis venosis basi carnosis. Flores racemo stricto dispositi, luteo virides.

Obs. In my Synopsis of the British Flora the number of pollen masses is erroneously said to be 2. Their real number and position were first made known to me by Mr. Bauer's drawings; the position in which the pollen masses lie, one upon the other instead of side by side, gives them the appearance of being 2 instead of four, and caused the error here adverted to.

1. Malaxis paludosa. *Swartz.*

Ophrys paludosa. *Linn. sp. pl.* 1341.
Malaxis paludosa. *Swartz l. c. p.* 127. *t.* 6. *f.* 2. *Willd. n.* 7. *Eng. Bot.* 72.

Hab. in paludosis et turfosis *Europæ* septentrionalis. (*hab. s. sp. et v. v. sp.*)

Quid?

M. *Brasiliensis*; caule vaginato, foliis lanceolatis coriaceis, racemo spicato, sepalis interioribus angustis, labello trilobo connivente, lobo medio acuto apice subcorneo. *Habitat in Brazil.* Spreng. syst. 3. 740.

XVI. NEPHELAPHYLLUM.

Nephelaphyllum, *Blume Bijdr.* 372. *tabellen* 22.

Sepala et petala linearia, patentissima v. reflexa. Labellum calcaratum, integerrimum, liberum, lineâ mediâ elevatâ, limbo petaloideo cum columna parallelo. Columna semiteres. Anthera carnosa, triangularis! bilocularis. Pollinia 8, subquadrata.—Herbæ terrestres, subcaulescentes, glabræ, foliis ovatis, petiolatis, plicatis, suprà nebulosis (unde nomen), subtus purpurascentibus, pedunculo terminali multifloro, floribus pedicillatis.

Character ex icone et descriptione Blumii.

1. Nephelaphyllum tenuiflorum. *Blume.*

N. " floribus laxè spicatis cernuis, labello limbo intus rugoso-muricato." *Blume l. c.*

Hab. in sylvis altioribus montis Salak insulæ *Javæ*; Blume.

2. Nephelaphyllum pulchrum. *Blume.*

N. " floribus densè spicatis, labelli limbo intus lineis tribus muricatis." *Blume l. c. t.* 22.

Hab. in locis humidioribus sylvarum Salak insulæ *Javæ*, florens Januario-Aprili: *Blume.*

XVII. ACIANTHUS.

Acianthus. *R. Br. Prodr.* 1. 321.

Sepala subringentia, acuminatissima, libera: lateralibus labello suppositis. Petala minora acuminata. Labellum liberum, integrum, basi bicallosum, disco nudo. Columna semiteres, clavata. Anthera terminalis, recumbens, bilocularis. Stigma ovatum, transversum. Pollinia 8, ad basin in materie granulosa v. subpulverea solubilia.—Herbæ teneræ, glabellæ. Tuberes indivisi, solitarii, nudi, novello pedicillato. Caulis unifolius,

ad ipsam basin vaginâ brevi inclusus, supernè ebracteatus. Folium profundè cordatum, reticulato-venosum, subtus rufum. Flores racemosi, v. solitarii, rufi.

Character e descriptione R. Brownii, et Aciantho exserto.

Genius medium tenens inter Malaxideas et Arethuseas quoad polliniorum fabricam.

1. Acianthus exsertus. *R. Br.*

A. floribus racemosis, aristis brevissimis, galeâ basi attenuatâ foliolis interioribus horizontaliter reflexis, labello apice papuloso, columnâ exsertâ. *R. Brown Prodr.* 321.

Acianthus fornicatus. *Sieber! Fl. N. Holl. n.* 159.

Hab. ad Portum Jackson *Novæ Hollandiæ,* R. Brown. *Sieber, Caley (hab. s. sp.)*

2. Acianthus fornicatus. *R. Br.*

A. floribus racemosis, aristis perianthio quadruplò brevioribus, foliolis interioribus erectiusculis, labello longitudinaliter papuloso, columnâ inclusâ. *R. Brown! Prodr.* 321.

Hab. ad Portum Jackson *Novæ Hollandiæ, R. Brown, (hab. s. sp. comm. a celeberr. Brown.)*

3. Acianthus caudatus. *R. Br.*

A. scapo 1-2-floro, aristis longissimis, folii marginibus undulatis. *R. Brown Prodr.* 321.

Hab. ad Portum Jackson *Novæ Hollandiæ;* R. Brown.

4. Acianthus? bifolius. *R. Br.*

A. scapo unifloro, foliis radicalibus binis cucullatis, perianthio mutico, foliolis 3 exterioribus conformibus: lateralibus reflexis, interiorum? lateralibus angusto-linearibus. *R. Brown Prodr.* 322.

Epipactis reflexa. *Lab. Nov. Holl. t.* 211. *f.* 1.

Hab. in *Insula Van Diemen,* Labillardiére, R. Brown.

Generis dubii sec. cl. Brown, medium tenens inter Acianthum et Chiloglottim suam, cum illo numero polliniorum conveniens, cum hac foliis radicalibus binis, et sepalis muticis.

XVIII. CYRTOSIA.

Cyrtosia. *Blume Bijdr.* 396. *tabellen* 6.

Sepala et petala conniventia. Labellum carnosum, concavum, intùs discoideum, cum columna infernè connexum: limbo rotundato v. emarginato recto. Columna subincurva, supernè dilatata aut subalata. Anthera carnosa, bilocularis, columnam posticè terminans. Pollinia 2, reniformia, farinoso-pulposa, libera. Capsula siliquæformis, carnosa. Semina tunicata.—Herbæ terrestres, caulescentes. Radices tuberosæ, conglobatæ, difformes. Caules aphylli, (stipulis instructi! ?) Flores spicati, v. paniculati, bracteolati.

Character ex Blume. An potius Neottiea? An Vanillæ et Epistephio affinior?

1. Cyrtosia javanica. *Blume.*

C. " caulibus subsimplicibus, labello intus disco hirsuto instructo, limbo rotundato." *Blume l. c. tab.* 6.

Hab. in altioribus montium insulæ *Javæ,* florens Augusto; Blume.

2. Cyrtosia altissima. *Blume.*

C. " caulibus ramosis scandentibus (50-70 ped. altitud.) labello intus cristato, limbo semitrilobo." *Blume l. c.*

Hab. in montanis Seribu, insulæ *Javæ,* florens Aprili-Junio; Blume.

XIX. LIPARIS.

Liparis, *Rich. orch. Eur.* 30. *f.* 10.—Sturmia, *Reich. conspectus p.* 69. *n.* 1564.—Cestichis, *Thouars orch. Afr. t.* 90.

Sepala patentia, libera; lateralia basi æqualia sæpius breviora. Petala sepalis angustiora, rarò æqualia, linearia v. filiformia. Labellum ascendens v. erectum, basi cum columna paululum accretum, supra basin sæpius bituberculatum, integrum, nunc mucronibus aliquot sed lobis nullis. Columna elongata, semiteres, incurva, apice marginata. Anthera bilocularis. Pollinia 4, collateralia (oo oo).—Herbæ terrestres v. epiphytæ, foliis basi in pseudo-bulbum concretis, nunc membranaceis plicatis, nunc subcoriaceis venis minùs distinctis. Scapus teres v. angulatus, v. anceps. Flores parvi, herbacei, racemosi, rarò lutei v. albi.

Sect. i. *Folia membranacea, plicata. Plures terrestres.*

Liparis vera.

1. Liparis Rheedii.

L. " bulbis subcylindraceis, foliis pluribus ovato-lanceolatis, pedunculo erecto tetraquetro, bracteis semilanceolatis, limbo rotundato crenulato." *Blume.*

Malaxis Rheedii. *Blume p.* 389. *tab.* 54.

Hab. in sylvis umbrosis montium Seribu, *Javæ,* florens Februario; Blume.

" Sepala margine reflexa, sordidè purpurascentia; labellum luteum; gynostemium purpurascens. Folia membranacea." *Blume.*

2. Liparis nervosa.

L. foliis pluribus ovato-oblongis undulatis acutis racemo sparso paucifloro brevioribus, scapo angulato, floribus longè pedunculatis cernuis, labello cuneato (ovato sulcato emarginato *Th.*) retuso basi bicalloso.

Ophrys nervosa. *Thunb. Jap.* 27.
Epidendrum nervosum. *Thunb. ic. pl. Jap. t.* 10.
Malaxis nervosa. *Swartz act. Holm.* 1800. *p.* 235. *Willd. n.* 10.

Hab. in *Japonia,* juxta Osacca et Jedo, florens Junio et Maio; Thunberg; in *China*; *Reeves.* (*v. ic. pict. sinens. in Bibl. Hort. Soc.*)

Flores purpurei. Folia palmaria.

† 3. Liparis odorata.

L. foliis oblongo-lanceolatis plicatis, racemo erecto multifloro, scapo trigono, labello ovato concavo, floribus flavo-viridibus.

Kattou pounam marawara. *Rheede mal.* 12. *p.* 55. *t.* 28.
Malaxis odorata. *Willd. n.* 6.

Hab. in *India Orientali;* Rheede.

This is an obscure plant of which no modern botanist seems to have seen a specimen. It is, if correctly described, distinguishable from L. elata by its flowers being sweetscented and yellowish green, with an ovate lip.

4. Liparis elata. *Lindley.*

L. foliis pluribus oblongis acutis plicatis racemo erecto multifloro brevioribus, scapo angulato, labello obovato retuso basi bicalloso purpureo, sepalis herbaceis lateralibus obliquè recurvis.

Cymbidium ? veratrifolium. *Wallich in iconibus Musei Anglo-Indici no.* 634.
Liparis bituberculata. *Lindl. in B. Reg.* 882.
Cymbidium ? bituberculatum. *Hooker Exot. Fl. t.* 116. (polliniis erroneis.)
Liparis elata. *Lindley in Bot. Reg. t.* 1175.

Hab. in *India Orientali, Wallich*; etiam in *Brazilia* (*v. v. cult.*)

I was formerly of opinion that the Brazilian and Indian plants were different; but more recent observation and the inspection of Dr. Wallich's Indian drawings have induced me to combine them. I presume there is no doubt of the plant in the Garden of the Horticultural Society, from which L. elata was originally described, being really of Brazilian origin; and yet it is undoubtedly possible that there may have been some transposition of labels. I do not adopt the older specific name of bituberculatum because it is expressive of a character common to every species of the genus.

5. Liparis olivacea. *Lindl. in Wall. cat. no.* 1942.

L. foliis binis v. solitariis subrotundis cordatis, v. oblongis acuminatis plicatis racemo erecto multifloro brevioribus, scapo basi tereti, labello obovato retuso cum mucrone basi bicalloso, sepalis obtusis: lateralibus labello suppositis.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico benignè communicatum et v. ic. pict.*)

Pseudo-bulbus ovatus vaginis obtusis tectus. Folia 1 v. 2, sessilia, in icone cordata subrotunda acuta, in exemplare angustiora. Scapus angulatus, foliis multo longior. Racemus multiflorus. Flores olivacei. Sepala obtusa; lateralia labello supposita, patentia. Petala subulato-linearia, acuta. Labellum subrotundum, cuneatum cum mucrone, basi bicallosum. Columna apice alata, basi labello accreta.

6. Liparis barbata.

L. foliis binis oblongis acuminatis plicatis racemo paucifloro subcorymboso subæqualibus, labello cuneato barbato basi sulcato.

Hab. in pratis ad latera collium *Zeylonæ*, florens Novembri, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Herba pusilla, 4-uncialis, caulibus carnosis fusiformibus teretibus vaginatis. Folia 3, oblonga, acuminata, venosa. Racemus subcorymbosus foliis brevior. Flores virides. Columna apice aptera v. levissimè tantum marginata.

L. purpurascenti valdè similis.

7. Liparis purpurascens. *Lindley.*

L. foliis 2-3 cordatis ovatisve acutis undulatis plicatis racemo corymboso paucifloro subæqualibus, labello subrotundo dentato emarginato.

Ophrys salassia. *Herb. Commers. sec. A. Rich.*
Malaxis purpurascens. *Thouars orch. Afr. tt.* 26. 27.
Liparis purpurascens. *Lindl. in Bot. Reg.* 882. *A. Rich. orch. Maur. p.* 53.

Hab. in insulis *Borboniæ* et *Mauritii*, Thouars, A. Richard.

Planta humilis, 3-uncialis, caule squamulis aliquot vestito. Flores purpurascentes. Fructus obovatus, costatus, corymbosus.

8. Liparis atropurpurea.

L. foliis 2-3 subrotundis acuminatis petiolatis plicatis basi obliquis cucullatis racemo erecto rarifloro subæqualibus, scapo tereti, labello oblongo obtuso recurvo crenulato, sepalis lateralibus oblongo-lanceolatis obliquis, petalis longissimis filiformibus.

Hab. in *Zeylona, Macrae,* (*hab. s. sp.*)

Species pulcherrima L. napalensi valdè affinis, floribus atropurpureis, foliis basi cucullatis, et labelli formâ, distinctissima.

9. Liparis napalensis. *Lindley.*

L. foliis binis cordatis acuminatis petiolatis plicatis racemo erecto rarifloro paulo longioribus, scapo angulato, labello maximo recto cucullato oblongo acuminato, sepalis petalisque linearibus patentibus.

Malaxis cordifolia. *Smith ! in Rees.*
Liparis nepalensis. *Lindl. in Bot. Reg.* 882. *Spreng. no.* 4.
Acianthus petiolatus. *Don Prodr. nep. p.* 28.

Hab. supra rupibus saxisque Sheopore montis *Napaliæ*, florens Junio; *Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores virides.

10. Liparis liliifolia. *Richard.*

L. foliis binis oblongis acutis plicatis racemo multifloro multò brevioribus, scapo angulato, labello maximo obovato mucronato recurvo discolore, sepalis linearibus patentissimis.

Ophrys liliifolia. *Linn. sp. pl.* 1341. *Bot. Rep.* 1. 65.
Malaxis liliifolia. *Swartz act. Holm.* 1800. *p.* 235. *Willd. n.* 8. *Bot. Mag. t.* 2004.
Liparis liliifolia. *Rich. orch. Eur.* *Lindley in Bot. Reg.* 882.

Hab. in *America septentrionali* (*hab. s. sp. et v. v. cult.*)

Flores labello magno petalisque filiformibus purpurascentibus. Capsula obovata, costata.

11. Liparis Löselii. *Richard.*

L. foliis binis ovato-oblongis obtusis plicatis racemo paucifloro multo brevioribus, scapo angulato, labello ovato integerrimo concolore, sepalis petalisque linearibus inæqualibus.

Ophrys Löselii. *Linn. sp. pl.* 1341. *Eng. Bot. t.* 47.
Malaxis Löselii. *Swartz act. Holm.* 1800. *p.* 235. *Willd. n.* 9.
Liparis Löselii. *Rich. orch. Eur.* *Lindl. in B. Reg.* 882. *Synopsis Br. Fl.* 1. 263.
Ophrys paludosa. *Fl. dan. t.* 877.
Ophrys liliifolia. *Huds. Angl.* 389.
β? Malaxis correana. *Barton Prodr. Fl. Philad. p.* 86. *Nuttall* 2. 196.
Liparis correana. *Spreng. syst.* 3. 740.

Hab. in turfosis *Europæ* borealis; in *Canadâ, Gouldie.* (*hab. s. sp.*)

I have the Malaxis Correana from Canada, gathered by Mr. Gouldie, and I find no difference between it and our European Liparis Löselii.

12. Liparis flavescens. *Lindley.*

L. foliis binis oblongis petiolatis plicatis planis racemo 2-4-floro corymboso brevioribus, scapo flexuoso, bracteis ovatis, labello ovato integerrimo, sepalis lateralibus ovatis : supremo petalisque filiformibus.

Malaxis flavescens. *Thouars orch. Afr. t.* 25.
Liparis flavescens. *Lindley in Bot. Reg.* 882. *A. Rich. orch. Maur. p.* 51.

Hab. in *Mauritio* et *Borbonia*; Thouars, Neraud.

Flores flavi.

13. Liparis montana.

L. " bulbis ovatis compressis vaginatis 1-2-phyllis, foliis petiolatis ovato-lanceolatis, pedunculo erecto sulcato, bracteis lineari-subulatis, limbo obtuso cum mucrone." *Blume.*

Malaxis montana. *Blume p.* 388.

Hab. in umbrosis montis ignivomi Gede, insulæ *Javæ,* florens Junio; Blume.

" Flores in summo pedunculi conferti, dilutè purpurascentes. Sepala margine reflexa, limbo ciliolato. Folia membranacea. Variat bulbis subnullis, floribus laxè racemosis, limbo nudo." *Blume.*

14. Liparis plantaginea.

L. pseudo-bulbis ovatis vaginatis, foliis 1-2 oblongis acuminatis plicatis racemo brevioribus, scapo marginato, labello ovato subundulato obtuso basi bicalloso, bracteis acuminatis ovarii longitudine.

Cymbidium ? plantagineum. *Wallich in iconibus Musei Anglo-Indici n.* 633.

Hab. in *India Orientali*; *Wallich.* (*v. iconem.*)

Flores virides. Sepala lineari-oblonga obtusa subæqualia et petala filiformia patentia.

15. Liparis tradescantifolia.

L. " bulbis compressiusculis vaginatis 1-phyllis, foliis ovatis discoloribus, bracteis minutis ovatis, labelli limbo ovato integerrimo." *Blume.*

Malaxis tradescantifolia. *Blume p.* 389.

Hab. in umbrosis montanis Salak, *Javæ,* florens Octobri; Blume.

" Sepala subæqualia, patentia; labellum sepalis paulò latius, basi callosum. Antheræ loculis subdisjunctis. Folia membranacea." *Blume.*

16. Liparis Clypeolum.

L. folio solitario horizontali suborbiculato basi cucullato apice reflexo acuto racemo erecto multò breviore, labello maximo orbiculato.

Epidendrum Clypeolum. *Forst. Prodr. n.* 323.
Cymbidium Clypeolum. *Willd. n.* 22.

Hab. in insula *Otaheite*; *Forster.* (*v. s. sp. et iconem Forsterianam in Bibliotheca Banksiana.*)

Obs. Foliis magnis suborbiculatis solitariis spicâ paulò brevioribus insignis.

Sect. II. *Folia subcoriacea, non plicata. Rachis sæpius alata. Plures epiphytæ, scapis ancipitibus.*

Cestichis, *Thouars.*

17. Liparis foliosa. *Lindley.*

L. foliis pluribus oblongo-lanceolatis acutis racemis rarifloris subæqualibus.

scapo subancipiti, bracteis subulatis, labello oblongo obtuso recurvo, sepalis petalisque æqualibus reflexis, clinandrio marginato.

Liparis foliosa. *Lindl. in B. Reg. t.* 882. *Lodd. Bot. Cab.* 1097. *Hooker Bot. Mag. t.* 2709. *A. Rich. orch. Maur. p.* 52.
Liparis ? reflexa. *Lindl. l. c.*
Cymbidium reflexum. *R. Br. Prodr.* 331.

Hab. in *Mauritio,* et *Nova Hollandia* ad Portum Jackson. (*v. v. cult.*)

Obs. In planta Mauritiana inveni clinandrium integrum, in Australasica dentatum, alioquin discrimen nullum.

18. Liparis longipes. *Lindl.*

L. pseudo-bulbis longissimis teretibus diphyllis, foliis ensiformi-lanceolatis racemo stricto multifloro brevioribus, scapo ancipiti, labello ovato acuto ecalloso columnæ longitudine, sepalis ovatis, petalis linearibus. *Lindl. in Wall. Pl. As. Rar. vol.* 1. *p.* 31. *t.* 35.

Hab. supra saxa ad ripas fluminum montium *Zeylonæ,* florens Novembri: *Macrae;* in montibus *Bengaliæ orientalis, Wallich.* (*hab. s. sp. et v. ic. pict.*)

Pseudo-bulbi subcylindracei, teretes. Folia oblongo-lanceolata acuta. Racemus erectus foliis paulò longior, densus, multiflorus. Flores pallidè herbacei. Sepala lateralia ovata, supremum oblongum, patentia; petala linearia. Columna elongata, erecta, apice alata. Labellum erectum, ovatum, carnosum, glabrum, a columna omnino liberum, tuberculis obsoletis.

Obs. Planta Bengalensis nullo modo diversa videtur nisi floribus albis labello luteò; fortè icon mea Zeylanica minus accuratè depicta.

19. Liparis elegans. *Lindl. in Wall. cat. no.* 1943.

L. pseudo-bulbis elongatis diphyllis basi vaginis suberoso-carnosis vestitis, foliis spatulato-lanceolatis acuminatis racemo stricto multifloro æqualibus, scapo basi rachique teretibus, labello cuneato truncato crenulato basi bicalloso, sepalis oblongis obtusis patentibus.

Hab. in Pinang, *Indiæ Orientalis; Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Planta pedalis, verosimiliter epiphyta. Radices lanuginosæ. Pseudobulbi aliquando 4 uncias longi. Folia erecta in basi valdè attenuata. Flores aurantiaci (ex Wall). Petala filiformia. Capsulæ pendulæ, pyriformes, glabræ, costis 6 obsoletis.

L. crenulatæ valdè affinis; an diversa? Bracteæ non ovarii longitudine sed brevissimæ, nec labellum emarginatum sed truncatum cuneatum.

20. Liparis crenulata.

L. " foliis in bulbo oblongo compresso geminatis ternisve lineari-lanceolatis acuminatis, pedunculo longitudine foliorum, bracteis longitudine ferè ovarii lanceolatis, limbo labelli emarginato crenulato." *Blume.*

Malaxis crenulata. *Blume p.* 393.

Hab. in convallibus montis Gegar-bentang, *Javæ,* florens Maio; Blume.

" Flores aurantiaci; affinis M. (Lipari) odoratæ."

21. Liparis latifolia.

L. " folio in bulbis oblongis compressiusculis solitario lato lanceolato acuto, pedunculis folio longioribus, bracteis ovatis adpressis parvis, labelli limbo bilobo crenulato." *Blume.*

Malaxis latifolia. *Blume p.* 393.

Hab. in Provinciae Bantam regionibus montanis, ad montem Pantjan Provincia Buitenzorg, *Javæ,* florens Junio Augusto; Blume.

" Flores aurantiaci; L. crenulatæ maximè affinis."

22. Liparis angustifolia.

L. " foliis in bulbo ovato-oblongo solitariis angusto-lanceolatis, pedunculo erecto apice paucifloro longitudine foliorum, bracteis lineari-subulatis, labelli limbo obtuso." *Blume.*

Malaxis angustifolia. *Blume. p.* 393.

Hab. ad truncos arborum in montanis Salak et Gede, *Javæ,* florens Februario; Blume.

" Flores pallidè flavi."

23. Liparis viridiflora.

L. pseudobulbis ovatis, foliis binis obovato-lanceolatis racemo multifloro nutante duplò brevioribus, scapo ancipite, rachi alatâ, labello ovato undulato obtuso ecalloso, bracteis subulatis floribus longioribus v. æqualibus.

Malaxis viridifolia. *Blume p.* 392.

Hab. supra arbores et saxa sylvarum *Zeylonæ,* florens Novembri, *Macrae;* in sylvis *Javæ,* Blume (*hab. s. sp. et v. ic. pict.*)

Pseudo-bulbi ovati, compressi. Folia obovato-lanceolata, acuta, racemo nutante duplò breviora. Bracteæ subulatæ floribus longiores. Flores virides. Sepala subæqualia ovata patentia. Petala linearia reflexa. Labellum ovatum undulatum obtusum.

24. Liparis affinis.

L. " foliis in bulbo ovato-oblongo solitariis lanceolato-linearibus infernè canaliculatis, pedunculo nutante foliorum longitudine, bracteis subulatis, labelli limbo rotundato." *Blume.*

Malaxis affinis. *Blume p.* 392. *tab.* 54.

Hab. in sylvis propè Lebak Provinciæ Bantam, *Javæ,* florens Junio; Blume.

25. Liparis parviflora.

L. " foliis in bulbo ovato oblongo compressiusculo geminatis lanceolatis basi carinatis, pedunculis (folio duplò longioribus) nutantibus teretibus, bracteis subulatis, labelli limbo angusto emarginato." *Blume.*

Malaxis parviflora. *Blume p.* 392.

Hab. ad montem Salak, *Javæ,* florens Decembri; Blume.

" Flores lutei, labelli limbo coccineo." *Blume.*

26. Liparis pallida.

L. " foliis in bulbo oblongo compressiusculo vaginato solitariis lanceolatis, bracteis lineari-lanceolatis remotis, labelli limbo rotundato-retuso crenulato." *Blume.*

Malaxis pallida. *Blume p.* 391.

Hab. suprà arbores excelsas fluvii Tjapus in montosis Salak, *Javæ,* florens Septembri; Blume.

" Flores olivacei."

27. Liparis minima.

L. "folio in bulbis (seriatis ovatis compressiusculis) lineari-lanceolato, pedunculo folium æquante compresso, floribus laxè spicatis distichis, capsulis triquetris." *Blume.*

Malaxis minima. *Blume p.* 391.

Hab. in arboribus ad montem Salak, ut etiam in montosis Pantjar, *Javæ*, florens Maio; Blume.

Affinis Lipari cæspitosæ sec. Blume.

28. Liparis cæspitosa. *Lindley.*

L. foliis lanceolatis in pseudo-bulbis ovatis solitariis longitudine racemi rariflori, scapo tereti, labello lanceolato recurvo, sepalis petalisque acutis reflexis.

Malaxis cæspitosa. *Thouars t.* 90.
Liparis cæspitosa. *Lindl. in B. Reg.* 882. *A. Richard orch. Maur. p.* 53.

Hab. in *Mauritio* et *Borbonia*; Thouars.

Flores minuti virescentes.

29. L. luteola. *Lindl. in Wall. cat. no.* 1944.

L. pseudo-bulbis minimis vaginatis, foliis geminis lineari-lanceolatis racemo flexuoso paucifloro brevioribus, scapo tereti, labello obovato retuso in columna apice alata incumbente: callo unico baseos obsoleto, bracteis ovatis acuminatis decurrentibus, pedicellis capillaribus floribus multoties longioribus.

Hab. in montibus Pundua, *Indiæ Orientalis, Wallich* (*hab. s. sp. e Museo Anglo-Indico.*)

Planta parva gregaria inter muscos vegetans. Racemi 5-6-flori, foliis paulò evectiores; rachi tereti flexuosâ. Sepala lineari-oblonga, obtusa et petala filiformia, patentia. Labellum posticum, ungue columnæ parallelo, limbo recurvo, venis 5 simplicibus collateralibus in medio, unicâ utrinque distante venulas versus marginem hinc pectinatim emittente.

30. Liparis compressa.

L. "foliis in bulbo ovato compressiusculo solitariis lanceolato-linearibus basi carinatis, pedunculo compresso, bracteis bifariàm imbricatis (pectinatis), limbo orbiculato retuso cum mucrone." *Blume.*

Malaxis compressa. *Blume p.* 390. *tab.* 54.

Hab. in sylvis altioribus Provinciarum Buitenzorg, Bantam et Tjanjor, *Javæ*, florens Septembri; Blume.

"Flores aurantiaci." *Bl.*

31. Liparis mucronata.

L. "foliis in bulbis (remotis ovatis) compressiusculis solitariis lanceolato-linearibus acuminatis basi carinatis, bracteis in summo pedunculi bifariàm imbricatis carinatis, labelli limbo angusto semi-bifido cum mucrone intermedio." *Blume.*

Malaxis mucronata. *Blume p.* 391.

Hab. in sylvis montanis Provinciarum Bantam et Buitenzorg, *Javæ*, florens Junio; Blume.

"Flores flavo-virentes, parvi, nutantes. Affinis Malaxi distichæ Thouarsii." *Blume.*

32. Liparis gregaria.

L. foliis ensiformibus acutis in pseudo-bulbis ovatis solitarii, scapo ancipiti, rachi alatâ, bracteis distichis carinatis pectinatis, labello truncato, sepalis reflexis, petalis erectis.

Malaxis disticha. *Thouars t.* 89.
Liparis disticha. *Lindley in B. Reg.* 882. *A. Rich. orch. Maur. p.* 54.
Stelis micrantha. *Sieber. Herb. Maur. n.* 168.

Hab. supra rupes in sylvis montium *Zeylonæ*, florens Novembri; *Macrae*; *Mauritio, Sieber*; *Borbonia*, Thouars. (*habeo s. sp. et v. iconem pictam.*)

Rhizoma articulatum, annulatum, intricatum, pseudo-bulbos plurimos gregarios promens. Spicæ lanceolatæ, bracteis ovatis acuminatis. Flores viridi-lutei; sepala lateralia ovata acuta labello supposita; supremum reflexum; petala linearia erecta. Clinandrium marginatum cavum, anticè bilobum cum mucrone.

Obs. Epidendrum biflorum, *König Mss.* in Zeylona lectum, fortè hujus loci. Planta Zeylanica a Mauritiano Herbarii Sieberiani n. 168 nullo modo differt; labellum tamen hujus secundum auctores celeberrimos suprà citatos tridentatum, dum in nostra certissimè truncatum dente nullo, nisi sic angulos truncaturæ dicas.

I formerly called this by the specific name given to it by M. Du Petit Thouars under the genus Malaxis, being at that time unacquainted with any others with the same remarkable distichous inflorescence. More being now known, I avail myself of the privilege which an author undoubtedly possesses of altering his own names if he thinks fit, although no one else can be suffered to do it for him.

* Liparis spuria.

33. Liparis serræformis. *Lindl. in Wall. Cat. no.* 1946.

Hab. supra arbores *Zeylonæ, Macrae*; Attran Martabaniæ, et Tavoy *Indiæ Orientalis, Wallich.* (*hab. s. sp. e Museo Anglo-Indico et Zeylonâ, et v. ic. pict. sine fl.*)

Planta epiphyta caulibus teretibus ramosis subancipitibus radices plurimos longissimos intricatos undique promens, pseudo-bulbo nullo. Folia disticha, coriacea, oblonga, v. oblongo-lanceolata, obtusa, decidua. Racemi oppositifolii, foliis longiores, pedunculo angulato non ancipiti, rachi alatâ, bracteis falcatis, ovatis, carinatis, distichis, pectinatis, in rachi decurrentibus. Florem unicum tantum vidi mutilum, cui quantum videre licuit, sepala ovata succulenta libera patentia venis 7 subsimplicibus, petala conformia paulò minora, labellum truncatum trilobum lobo medio apice calloso, callo altero luteo intra-apiculari, denique columna libera, fortè basi producta antherâ ovatâ biloculari, polliniis 4 angustis collateralibus liberis.

This singular plant when properly examined will possibly be found distinct from the genus in which it is now placed; all that I have been able to ascertain satisfactorily, from the inspection of a single mutilated flower, is that the pollen masses are as I have described them, and that the plant belongs to Malaxideæ. The peculiar winged rachis and carinate bracteæ forming a kind of pectinated inflorescence is exactly that of L. gregaria, disticha and some others; but the plant differs from them in having no tendency to form bulb-like stems, in room of which it has the taper woody rooting stems and coriaceous distichous leaves of Aerides and its allies.

XX. DENDROCHILUM.

Dendrochilum. *Blume Bijdr.* 398. *tabellen* 52.

Sepala et petala æqualia, libera, patentia. Labellum integerrimum, sepalis subconforme, basi concavum v. carinatum, nunc cristatum. Columna brevis, semiteres, anticè processubus duobus cornua referentibus, apice dentata v. rostrata. Anthera infra apicem inserta, bilocularis, valvis nullis anticis. Pollinia 4, libera (8 8) incumbentia.—Herbæ supra arbores vigentes, foliis coriaceis in pseudo-bulbis sæpius solitariis. Spicæ terminales aut laterales, filiformes, multifloræ. Flores juniores bracteis bifariàm imbricatis occulti.

Character ex Blume.

Sect. I. "Bulbi remoti; spicæ laterales; sepala linearia; labellum parvum elasticè affixum; gynostemium apice attenuatum emarginatum." *Blume.*

1. Dendrochilum aurantiacum. *Blume.*

D. "bulbis oblongis, labello carinato edentulo." *Blume l. c.*

Hab. in truncis arborum montium Gede, Salak, &c. insulæ *Javæ,* florens Februario Augusto; Blume.

"Flores aurantiaci suaveolentes."

2. Dendrochilum occultum.

D. pseudo-bulbis subquadratis, foliis oblongis emarginatis, bracteis maximis quadrifariàm imbricatis floribus occultantibus, labello lineari fimbriato.

Bulbophyllum occultum. *Thouars orch. Afr. tt.* 93. 94. *A. Rich. orch. Afr. p.* 64.

Hab. in insulis *Borboniæ* et *Mauritii;* Thouars.

Flores fusci. Huc retuli ad mentem cel. Blumii.

3. Dendrochilum pallideflavens. *Blume.*

D. "bulbis ovalibus, labello carinato edentulo, gynostemii laciniis lateralibus scabris." *Blume l. c. t.* 52.

Hab. in montanis Pantjar insulæ *Javæ,* florens Julio; Blume.

"Planta tenera, pedunculis tetragonis spicato-laxifloris. Flores pallidè flaventes."

Sect. II. "Bulbi consociati; spicæ ex apice bulborum ortæ; sepala oblonga labello subæqualia; gynostemium apice truncatum erosum." *Blume.*

4. Dendrochilum edentulum. *Blume.*

D. "bulbis oblongis subulatisve, labello integerrimo internè 1-calloso, gynostemii laciniis lateralibus medio æqualibus." *Blume l. c.*

Hab. in altis montis Salak, insulæ *Javæ,* florens Februario Julio; Blume.

"Flores flavo-virentes."

5. Dendrochilum cornutum. *Blume.*

D. "bulbis fusinis, labello basi denticulato internè 2-calloso, gynostemii laciniis lateralibus elongatis." *Blume l. c.*

Hab. in montosis Provinciarum Buitenzorg et Tjanjor, insulæ *Javæ*, florens Septembri Februario; *Blume.*

" Flores virentes."

6. Dendrochilum simile. *Blume.*

D. " bulbis ovali-oblongis, labello infernè denticulato internè bilineato, gynostemii laciniis lateralibus medio æqualibus." *Blume. l. c. tab.* 52.

Hab. cum D. cornuto in insula *Javæ*, florens omni tempore; *Blume.*

" Flores pallidè virentes."

7. Dendrochilum abbreviatum. *Blume.*

D. " bulbis ovali-oblongis, labello basi utrinque dente reflexo instructo internè bicalloso, laciniis gynostemii lateralibus abbreviatis." *Blume l. c.*

Hab. in montanis Provinciarum occidentalium insulæ *Javæ*, florens toto anno; Blume.

" Flores virescentes."

XXI. OTOCHILUS.

Sepala et petala æqualia, libera, patentia. Labellum trilobum, lobis lateralibus auriformibus basin columnæ amplectantibus, intermedio patente elongato sepalis conformi, cristis nullis. Columna elongata, clavata, semiteres. Anthera terminalis, bilocularis, septo medio bipartibili, et hinc bivalvis, valvis anticis et posticis medio septiferis. Pollinia 4, incumbentia (8 8), ad basin materie granulosâ cohærentia.—Herbæ supra arbores repentes, rhizomate destitutæ, sed pseudo-bulbis semper e latere apicis suæ soboliferis. Racemi multiflori e latere pseudo-bulborum, basi vaginati. Stigma labio superiore ovato producto.

Genus Cœlogyni affine, columnâ immarginatâ, antherâ terminali, dehiscentiâ antheræ, et structurâ labelli diversum.

1. Otochilus alba. *Lindl. in Wall. Cat. no.* 1967.

O. pseudo-bulbis ovalibus imbricatis, foliis lanceolatis subplicatis, racemis è vaginis foliaceis verrucosis erumpentibus, bracteis oblongis, sepalis petalisque acutis.

Broughtonia pendula. *Wallich in icon. Bibl. Anglo-Indicæ n.* 643.

Hab. supra arbores *Napaliæ*, indeque in hortum Botanicum Calcuttæ allata, Aprili floret, *Wallich.* (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Rhizoma nullum sed pseudo-bulbi e lateribus suis hinc proliferi. Flores albi inodori. Labellum basi flavum. Alabastra ovata. Columna virescens.

2. Otochilus fusca. *Lindl. l. c. no.* 1969.

O. pseudo-bulbis elongatis fusiformibus, foliis lineari-lanceolatis, bracteis linearibus, sepalis petalisque obtusis.

Broughtonia? amœna. *Wall. in ic. Bibl. Anglo-Indicæ n.* 642.

Hab. supra arbores *Napaliæ*, inde in Hortum Botanicum Calcuttæ introducta, ubi floret Januario, *Wallich.*

Vaginæ racemi breves. Racemus densus, multiflorus, nutans. Rachis ovaria bracteæ et columna fuscæ. Labelli aures dilutè roseæ. Alabastra obovata. Pseudo-bulbi digiti crassi, 6-8-pollicares. Flores odoratissimi ex *Wall.*

3. OTOCHILUS porrecta. *Lindl. l. c. no.* 1968.

O. pseudo-bulbis elongatis fusiformibus, foliis oblongo-lanceolatis plicatis, bracteis linearibus, sepalis petalisque acutis.

Hab. in Pundua *Indiæ Orientalis, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Præcedenti simillima, at characteribus datis diversa. Aures labelli obscurè denticulatæ. Pollinia non vidi.

XXII. CŒLIA.

Sepala distincta, æqualia, patentia. Petala subæqualia paulò minora. Labellum integerrimum, unguiculatum, cum basi columnæ continuum, (nec articulatum). Columna nana cum ovario continua, basi leviter producta. Antheræ loculi 2, per connectivum tenue tantum cohærentes, ovati, inappendiculati. Pollinia 4, per paria cohærentia, oblonga, æqualia: pare utroque extùs convexo intùs cavo. Ovarium 9-alatum.—Herba epiphyta acaulis, foliis plicatis et scapo radicali e squamis semicoriaceis erumpentibus.

I learn the very curious structure of this plant from a beautiful sketch of Mr. Bauer's. Its peculiarity consists in its anther having its lobes connected by only a narrow slight connectivum, so that it is twolobed, and in the pollen masses being concave and convex so that each pair forms a sort of hollow body narrower at the back than at the front, at which end it is open. The placentary angles of the ovarium are larger than the rest and simple, while the intermediate ones are smaller and double.

1. CŒLIA Bauerana.

Epidendrum tripterum. *Smith ic. pict.* 14. *t.* 14.
Cymbidium tripterum. *Swartz n. act. Ups.* 6. *p.* 70. *Willd. n.* 2. *Hort. Kew. ed.* 2. 5. 214.

Hab. in *Jamaica* (*habeo s. cult.*)

XXIII. PHOLIDOTA.

Pholidota. *Lindley in Hooker Exot. fl. t.* 138. (Januario 1825).—Ptilocnema. *Don Prodr. nep.* 33. (Febr. 1825).—Crinonia. *Blume Bijdr. p.* 338. *t.* 41.

Flores subglobosi. Sepala æqualia, distincta. Petala minora. Labellum cucullatum ventricosum, trilobum v. indivisum, cum columna parallelum. Columna cum ovario continua, semiteres v. alata: clinandrio cucullato. Anthera bilabiata! 2-v. 4-valvis. Pollinia 4, globosa, distincta —Herbæ epiphytæ rhizomate v. carnoso articulato v. pseudobulbifero. Folia plicata. Spicæ terminales sæpius imbricatæ et nutantes.

In this genus there are some species in which the rhizoma has spurious bulbs, and others in which, in lieu of these bodies, the joints of the rhizoma themselves become fleshy. The anther is not formed upon the usual plan of Orchideæ. Instead of the valves opening by two slits along the face of each lobe of the anther, these lobes are combined and the whole face of the anther separates from the back, on which account I have called it bilabiate. The same thing appears to happen in some of Blume's Chelonantheras.

1. PHOLIDOTA imbricata. *Lindley.*

P. pseudo-bulbis ovato-oblongis obtusis subangulatis, foliis solitariis ob-

longo-lanceolatis plicatis acutis, spicis pendulis foliorum longitudine, bracteis membranaceis concavis imbricatis, sepalis lateralibus ovatis carinatis, labello subgloboso cucullato: lobis lateralibus parvis erectis; intermedio bilobo cordato.

Pholidota imbricata. *Lindl. in Hooker Flora Exotica t.* 138. *Bot. Reg. t.* 1213. *Wall. Cat. no.* 1991.
Ptilocnema bracteatum. *Don Prodr.* 33.

Hab. in India Orientali, frequens, *Wallich*; in *Zeylona*, Macrae. (*v. v. cult. et habeo s. sp.*)

2. Pholidota undulata. *Wallich.*

P. pseudo-bulbis ovato-fusiformibus inæqualibus, foliis binis lanceolatis erectis, spicis elongatis pendulis, bracteis ovato-linearibus, sepalis ovatis subcarinatis concavis, labello cucullato ventricoso obsoletè trilobo integerrimo.

P. undulata. *Wallich in Bot. Reg. fol.* 1213 *in textu.*

Hab. in *India Orientali, Wallich.* (*v. ic. pict. in Bibl. Anglo-Indica.*)

Flores fusci. Labellum tantum pallidè lateritium.

This species is nearly allied to P. imbricata, from which its brown flowers, small bracteæ and differently shaped lip and leaves abundantly distinguish it.

3. Pholidota rubra.

P. pseudo-bulbis ovatis corrugatis, foliis binis lanceolatis, spicis laxis erectis foliis brevioribus: fructiferis longioribus nutantibus, bracteis lanceolatis, sepalis concavis ovatis acutis, labello trilobo: lobo medio ovato acuto.

Hab. in *India Orientali*; *Wallich.* (*v. ic. pict. in Bibl. Anglo-Indica.*)

Sepala et petala latèritia. Labellum et còlumna luteæ.

I for some time took this for Blume's Crinonia carnea; but his description is so brief and in the few particulars he mentions it differs so much as to justify me in regarding it as a distinct species.

4. Pholidota carnea.

P. "bulbis subremotis ovato-oblongis 1-3-phyllis, foliis lineari-lanceolatis, labelli limbo rotundato intus bicalloso." *Blume.*

Crinonia carnea. *Blume p.* 339. *t.* 41.

Hab. in sylvis umbrosis montium Salak et Gede, *Javæ*, florens toto anno; Blume.

Variat bulbis approximatis ovalibus, prope Tjitjalobak, ad montem Salak, *Javæ*; *Blume.*

5. Pholidota globosa.

P. "bulbis approximatis globosis 2-3-phyllis, foliis lineari-lanceolatis, labelli limbo obtuso." *Blume.*

Crinonia globosa. *Blume p.* 339.

Hab. ad cataractas fluvii Tjapus in montosis Salak, *Javæ*, florens Octobri; Blume.

6. Pholidota recurva.

P. rhizomate carnoso articulato ascendente, foliis solitariis oblongo-lanceolatis subplicatis, spicis secundis recurvis foliis longioribus, bracteis

cuneatis membranaceis imbricatis, sepalis lateralibus ovatis dorso acutis, labello ventricoso (undulato ?) indiviso emarginato.

Hab. in *Napalia, Wallich.* (*hab. s. sp. comm. cel. Lambert.*)

Articuli rhizomatis 1½ unciam longi. Folia circiter 3-uncialia. Columna teres anticè tumida. Dorsum clinandrii erectum, rostellum ovatum porrectum.

I know this very remarkable species by specimens given me several years since by Mr. Lambert. It came to England with some of Dr. Wallich's earliest Nipal collections. Its imbricated unilateral recurved spikes characterize it well, and distinguish it from P. articulata which besides has the joints of the rhizoma twice as long, and the bracteæ of a different figure.

7. Pholidota articulata. *Lindl. in Wall. Cat. no.* 1992.

P. rhizomate carnoso articulato ascendente, foliis binis pluribusve ovalibus plicatis apice subintegris, spicis laxis cernuis foliorum longitudine, bracteis oblongis concavis, sepalis ovatis, labello cucullato integro apice rotundato plano.

Hab. in Pundua, *Indiæ Orientalis, Wallich.* (*habeo s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Articuli rhizomatis 3-4 uncias longi. Rachis valdè flexuosa. Flores albi, basi apicis labelli luteâ.

XXIV. DILOCHIA.

Sepala conniventia, libera, petalis subæqualia, colorata. Labellum cucullatum, trilobum, basi subsaccatum, trilamellatum. Columna cum labello non articulata, clavata, alata, apice cucullata dentata. Anthera 4-locularis, ovata, cristata. Pollinia 4.—Herba caulescens, foliis coriaceis acutis distichis subcostatis. Racemus terminalis e squamis coriaceis erumpens, bracteis coriaceis, persistentibus, divaricatis, coriaceis, distantibus. Flores speciosi, sepalis crassioribus quam petala, ovario non torto.

Obs. Octomeriæ structurâ similis, habitu diversissima.

1. Dilochia Wallichii. *Lindl. in Wall. Cat. no.* 1952.

Hab. in *Singapore, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

XXV. CŒLOGYNE.

Cœlogyne. *Lindl. Coll. Bot.* 33. *in textu.*—Pleione. *Don. Prodr. nep.* 37.—Chelonantheræ, *Sect.* 2 *et* 3. *Blume Bijdr.* 382.

Sepala conniventia v. patentia, libera, æqualia, petaloidea. Petala nunc sepalis conformia, nunc linearia. Labellum cucullatum, sæpius trilobum, lineis disci elevatis v. cristatis, nunc integerrimum ecristatum (in Paniscâ). Columna erecta libera margine alata, apice dilatata, nunc cucullata, stigmate bilabiato. Anthera bilocularis, septo medio non partibili; infra apicem columnæ inserta. Pollinia 4, libera, (8 8) incumbentia; nunc basi materie granulosâ cohærentia.—Herbæ supra arbores et saxa vigentes, foliorum basibus in pseudo-bulbos dilatatis, rhizomate nunc crasso squamoso, nunc obsoleto. Folia coriacea sæpiùs venis distinctis

æqualibus, nunc quibusdam crassioribus costata v. plicata. Racemi terminales v. radicales e squamis (bracteis sterilibus) corneis erumpentes. Flores speciosi sæpe odorati.

Obs. This genus is nearly related to Cymbidium among Vandeæ and to Cattleya among Epidendreæ, from both which its peculiar habit is alone sufficient to distinguish it. From Dendrochilum it is only known by the absence of horn-like processes from its column; for the lip of some of the Gomphostylis section is entire, and C. (Panisca) parviflora is a Dendrochilum in every thing except the want of these processes. There is a strong tendency to produce a gland in some species such as C. præcox, uniflora, and fimbriata; but this is a mere granular mass such as the filum of Epidendreæ and will not be confounded with the cartilaginous gland of Vandeæ.

1. Cœlogyne flaccida. *Lindl. in Wall. Cat. no.* 1961.

C. pseudo-bulbis oblongis angulatis squamis coriaceis acuminatis ustulatis vestitis, foliis lanceolatis v. oblongo-lanceolatis longè petiolatis, racemo flexuoso nutante, bracteis deciduis, petalis lineari-lanceolatis, labello ovato trilobo: lineis tribus elevatis flexuosis: lobo medio ovato basi auriculato, columnâ integerrimâ.

Hab. ad Noakote, *Napaliæ*, supra arbores crescens, *Wallich*. (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

Flores mediocres, albi. Labellum intus flavum, immaculatum.

Vaginis ustulatis conspicua.

2. Cœlogyne cristata. *Lindley.*

C. pseudo-bulbis oblongis demùm angulatis rhizomati crasso squamoso insidentibus, foliis lineari-lanceolatis, racemo radicali nutante flexuoso basi squamis corneis vaginato, bracteis oblongis divaricatis persistentibus, petalis oblongo-lanceolatis, labelli trilobi cristâ duplici interruptâ: inferiore pectinatâ, lobo medio rotundato apiculato, columnâ denticulatâ.

? Cymbidium strictum. *Don Prodr.*
Cœlogyne cristata. *Lindl. Coll. Bot. p.* 33. *Wall. Cat. no.* 1958.

Hab. in montibus *Napalensibus* supra saxa et arbores, *Wallich*. (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Flores maximi generis, albi, odorati, divaricati. Sepala et petala conformia, lanceolata, leviter undulata. Labellum leviter cum basi columnæ connatum, cristis duabus parallelis luteis interruptis anticè subintegris, posticè pectinatis, et ex Wallichio, in seriebus 5 pilorum longorum simplicium s. bifidorum basi desinentibus.

3. Cœlogyne speciosa.

C. "bulbis oblongis tetragonis monophyllis, foliis oblongo-lanceolatis nervosis, scapo nutante retroflexo paucifloro, labello intus cristis 2 muricatis." *Blume.*

Chelonanthera speciosa. *Blume p.* 384. *tab.* 51.
Angræcum nervosum. *Rumph. Herb. Amb. tom.* 6. *t.* 48.

Hab. in sylvis montis Salak, *Javæ*, supra arbores, florens Octobri-Junio, Blume.

"Flores majusculi; sepala exteriora oblonga, acuta, carinata, margine reflexa, albo lutescentia. Labellum infrà albo griseum, intùs fulvum, lobo medio emarginato undulato."

4. Cœlogyne incrassata.

C. "bulbis oblongis subtetragonis, foliis lanceolatis nervosis, pedunculo nutante multifloro, labello intus bicristato nudo, limbi lobo medio ovato incrassato." *Blume.*

Chelonanthera incrassata. *Blume p.* 384.

Hab. in sylvis montis Pantjar, *Javæ,* florens Junio-Julio. Blume.

"Flores sordidè albi, diaphani; labelli limbo fusco undulato."

5. Cœlogyne elata. *Lindl. in Wall. Cat. no.* 1959.

C. pseudo-bulbis oblongis angulatis in rhizomate crasso squamoso insidentibus, foliis oblongis in basi attenuatis longè petiolatis, scapo terminali stricto foliis breviore subracemoso squamis distichis vaginato, bracteis deciduis, petalis lineari-lanceolatis, labelli trilobi medio bicristati lobo medio ovato crenulato, columnâ integrâ.

Hab. in sylvis *Napaliæ* et *Syllet, Wallich,* Februario Martio vigens. (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

Species sesquipedalis et ultrà. Flores albi, inodori. Labellum lobis lateralibus rotundatis, intermedio basi ocellis duobus flavis. Capsula lucida trigona clavata sesquipollicaris. *Wallich Mss.*

6. Cœlogyne prolifera. *Lindl. l. c. no.* 1956.

C. pseudo-bulbis ovatis angulatis rhizomati crasso squamoso insidentibus, foliis lanceolatis longè petiolatis, scapo terminali gracili erecto foliis duplò longiore prolifero sub quoque racemo squamis distichis vaginato, bracteis deciduis, petalis linearibus, labelli trilobi lobo medio retuso integerrimo undulato, columnâ subdenticulatâ.

Hab. ad Noakote et Toka, *Napaliæ,* supra arbores et rupes, florens Maio, *Wallich.* (*hab. s. sp. e Museo Anglo-Indico floribus delapsis.*)

Character floris ex Wallichii Mss. Flores ex viridi flavi. Sepala ovata leviter patula, semi-unguicularia, acutiuscula.

7. Cœlogyne nitida. *Lindley l. c. no.* 1954.

C. pseudo-bulbis ovatis cæspitosis subcostatis squamis nitidis vestitis, foliis lanceolatis acuminatis racemis nutantibus æqualibus, bracteis deciduis, sepalis petalisque oblongis obtusis, labelli lobo intermedio subrotundo cordato-ovato, disco lineis duabus elevatis, columna integra.

Cymbidium nitidum. *Roxb. Hort. Beng.*
Cœlogyne? nitida. *Lindl. coll. p.* 33.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Flores candidi, odorati. Labellum maculis duabus oblongis venisque croceis in cucullo, et ocellis duobus aurantiacis ad basin lobi intermedii, plicâ parvâ ad basin labelli inter duas lineas elevatas.

8. Cœlogyne ocellata. *Lindl. l. c. no.* 1953.

C. pseudo-bulbis ovatis cæspitosis subangulatis squamis nitidis vestitis, foliis lanceolatis acuminatis in petiolo angustatis racemis strictis æqualibus, bracteis deciduis, sepalis petalisque oblongo-lanceolatis, labelli lobo intermedio ovato ad basin utrinque lamellâ abbreviatâ interruptâ, disco lineis tribus lamellatis, columnâ obsoletè trilobâ.

Cœlogyne punctulata. *Lindl. coll. p.* 33.

Hab. in Sylhet et Sermore *Indiæ Orientalis, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Priori affinis habitu et colore florum, differt sepalis petalis labelloque longioribus, racemo erecto, et lamellis labelli.

Obs. C. punctulata *mihi* olim, ex exemplare solitario descripta, hujus loci est. Nomen mutavi quia dubius hæreo an flores reverâ sint punctati.

9. Cœlogyne Gardneriana. *Lindl. in Wall. Pl. As. Rar. vol.* 1. *p.* 33. *t.* 38.

C. pseudo-bulbis ampullaceis teretibus, foliis lanceolatis 5-costatis acuminatis longè petiolatis, racemis nutantibus densifloris terminalibus radicalibusque foliis multò brevioribus, bracteis deciduis, sepalis petalisque oblongis, labelli denticulati basi saccati lobo medio bilobo lateralibus minore.

Hab. in *India Orientali, Wallich.* (*v. ic. pict. l. c.*)

Maxima generis. Pseudo-bulbi 6 uncias longi; folia sesquipedalia; racemi spithamæi. Flores candidi immaculati. Bracteæ oblongæ.

10. Cœlogyne fuscescens. *Lindl. in Wall. Cat. no.* 1962.

C. pseudo-bulbis oblongis teretibus, foliis oblongis plicatis coriaceis utrinque acutis, racemo nutante multifloro, bracteis deciduis, petalis linearibus, labello trilobo trilineato: lobo medio amplo ovato acuto undulato, columnâ integrâ.

Hab. in *Napalia* supra arbores, *Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

Flores ampli e viridi fuscescentes. Sepalum supremum lateralibus majus. Labellum disco loborum lateralium et maculis duabus rotundis ad basin lobi medii cinnamomeis.

11. Cœlogyne trinervis. *Lindl. l. c. no.* 1955.

C. pseudo-bulbis ovatis in rhizomate crasso squamoso insidentibus, foliis lanceolatis plicatis in petiolum longum acuminatis, racemo brevi stricto, bracteis deciduis, petalis linearibus patentibus, labelli trilobi lobis rotundatis: intermedio undulato lineis tribus flexuosis elevatis, columnâ integrâ.

Hab. in Tavoy oræ Tenasserim, *Indiæ Orientalis; Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Species elegantissima C. fuscescenti affinis.

12. Cœlogyne odoratissima. *Lindl. l. c. no.* 1960.

C. pseudo-bulbis cæspitosis ovatis, foliis lanceolatis petiolatis racemi bitriflori longitudine, bracteis cymbiformibus divaricatis, petalis lineari-lanceolatis, labello trilobo tricristato: lobo medio undulato rotundato, columnâ integerrimâ.

Hab. in monte altissimo *Zeylonæ,* Nuera Ellia dicto, supra arbores, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Planta parva, 4 circiter uncias alta, rhizomate vix ullo. Pseudo-bulborum vaginæ virides concolores. Flores candidi, fragrantissimi, unicolores, maculis nullis. Petala magis reflexa quam sepala et multò angustiora.

13. Cœlogyne fimbriata. *Lindl.*

C. pseudo-bulbis oblongis in rhizomate squamoso insidentibus, foliis lan-

ceolatis pedunculo terminali vaginato bifloro duplò longioribus, petalis linearibus reflexis, labelli trilobi lobo medio undulato fimbriato, columnâ apice dentatâ.

Cœlogyne fimbriata. *Lindl. in B. Reg. t.* 868. *Wall. Cat. no.* 1957.
Broughtonia linearis. *Wall. in Bibl. Angl. Ind. ic. pict. n.* 649.

Hab. in *China*; etiam in *Napalia, Wallich. (hab. s. sp. e Museo Anglo-Indico, v. v. cult. et iconem pict.)*

Herba rhizomate annulato latè repente. Flores luteo-virides. Labellum carneum, basi saccatum, limbo fusco-aurantiaco medio bicristato, cristâ utrinque minore abruptâ. Pollinia basi materie granulosâ cohærentia. Bracteæ in indica magnæ persistentes, in hortensi deciduæ.

14. Cœlogyne uniflora. *Lindl. l. c. no.* 1966.

C. pseudo-bulbis ampullaceis aggregatis rhizomate insidentibus, foliis lineari-lanceolatis acuminatis, scapis radicalibus unifloris pseudo-bulbis subæqualibus, petalis lanceolatis, labello oblongo: lobis lateralibus brevibus falcatis.

Hab. in *India Orientali, Wallich. (v. iconem pict. in Museo Anglo-Indico.)*

Planta spithamæa. Flores dilutè carnei, sepalis lateralibus carinatis, petalis lanceolatis conformibus. Labellum sepalis ferè duplò latius, medio maculis tribus aurantiacis parùm elevatis notatum, de quibus lineæ 4, duæ ex media inferiore, parumper elevatæ decurrunt. *Wallich Mss.*

In this species it appears from Dr. Wallich's figure that there is a production at the base of the pollen masses, indicating I presume from its colour a formation of granular matter as in some other species that I have examined. It is nevertheless possible that the artist may have intended to represent a cartilaginous gland, in which case the species would be rather referable to Cymbidium. I have seen no specimen.

15. Cœlogyne longifolia.

C. "bulbis oblongis tetragonis diphyllis, foliis longo-lanceolatis, racemo elongato flexuoso multifloro, labello intùs bicristato: limbo rotundato emarginato patulo." *Blume.*

Chelonanthera longifolia. *Blume p.* 385. *tab.* 51.

Hab. circa originem fluminis Tjiburrum in monte Gede, *Javæ*, supra arbores; ad montem Salak in sylvis altioribus propè Passir Java, florens Aprili-Junio, Blume.

"Flores majusculi, helvoli. Sepala externa oblonga, carinata. Labellum basi concavum."

16. Cœlogyne miniata.

C. "bulbis oblongis subtetragonis diphyllis, foliis lineari-lanceolatis, racemo erecto paucifloro, labello intùs lineis 2 elevatis: limbo erecto acutiusculo." *Blume.*

Chelonanthera miniata. *Blume p.* 385.

Hab. prope cataractas fluvii Tjikundul, ad montem Gede, *Javæ*, et in altis montis Salak supra arbores, florens Junio, etc. Blume.

"Flores miniati; sepala acuta, exteriora leviter carinata."

§ Gomphostylis. *Wall. Mss.* Pleione. *Don Prodr. nep.*

Folia serotina. Pseudo-bulbi vaginis reticulatis tecti, depressi, cute tenerâ nec corneâ lucidâ. Flores solitarii radicales pedunculo vaginato. Labellum fimbriatum basi saccatum. Columna apice petaloidea cucullata. Pollinia materie granulosâ cohærentia.

I am unable to distinguish any thing like an essential difference between the plants of this section and Cœlogyne proper; their habit is remarkable but there is a close approach to it in C. uniflora. The granular matter by which their pollen masses cohere is of exactly the same nature as that of C. fimbriata.

17. Cœlogyne humilis. *Lindley.*

C. foliis . . . ., labello integro emarginato fimbriato, disco cristis plurimis fimbriatis, columnâ apice subintegrâ.

Epidendrum humile. *Smith Exot. Bot. t.* 98.
Cymbidium humile. *Smith in Rees.*
Pleione humilis. *Don. Prodr.* 37.
Cœlogyne humilis. *Lindl. coll. p.* 37. *Wall. Cat. no.* 1963.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

Flores candidi. Labellum sanguineo maculatum. Vaginæ virides immaculatæ. Columna sanguineo punctata.

18. Cœlogyne Wallichiana.

C. foliis . . . ., labelli lobo medio ovato denticulato apice bilobo integro cum apiculo: lateralibus obsoletis, disco cristis quinque incompletis denticulatis, basi breviter calcarato, columnâ apice dentatâ, stigmatis labio inferiore tricuspidato.

Hab. in *Pundua, Wallich.* (*v. ic. pict. in Museo Anglo-Indico.*)

Flores purpurei, prioris.

19. Cœlogyne maculata.

C. foliis lanceolatis plicatis, labelli lobis lateralibus abbreviatis integris: intermedio ovato retuso undulato, disco lineis quinque rectis denticulatis, columnâ integrâ, bracteâ ventricosâ.

Gomphostylis candida. *Wallich in ic. pict. in Museo Anglo-Indico n.* 651.

Hab. in Pundua, *Indiæ Orientalis, Wallich.* (*v. ic. pict. in l. c.*)

Flores candidi. Labellum medio sanguineo-lineatum, ad latera lobi intermedii guttatum. Pseudo-bulbi fusci.

20. Cœlogyne præcox. *Lindley.*

C. foliis oblongis ovatisque plicatis, labelli lobo medio oblongo emarginato fimbriato: disco cristis quinque serratis, basi breviter calcarato, columnâ apice dentatâ.

Epidendrum præcox. *Smith Exot. Fl. t.* 97.
Cymbidium præcox. *Smith in Rees.*
Pleione præcox. *Don Prodr.* 37.
Cœlogyne præcox. *Lindl. Coll. Bot. p.* 37. *Wall. Cat. no.* 1965.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

Flores purpurei, labelli limbo albo. Pseudo-bulbi maculati. Vaginæ inferiores pedunculorum maculatæ.

§ Panisea.

Sepala petala et labellum æqualia conniventia conformia: hoc integerrimo ecristato. Columna alato-marginata ecornis. Inflorescentia radicalis. Cœlogyni et Dendrochilo pariter affinis, huic labello illo columnâ, ab utroque diversa. An genus proprium?

21. Cœlogyne parviflora.

C. pseudo-bulbis cæspitosis ovatis elongatis, foliis lineari-lanceolatis obtusis racemi stricti imbricati longitudine, bracteis ovatis acutis pedicellis brevioribus, floribus imbricatis, petalis sepalisque lineari-oblongis æqualibus conniventibus, labello petalis conformi basi sigmoideo flexuoso integerrimo, columnâ cuneatâ integrâ.

? Dendrobium demissum. *Don Prodr.*

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Petala basi cordata. Scapus radicalis, capillaris, 4-5-uncias longus.

This plant occupies an intermediate position between Cœlogyne and Dendrochilum, agreeing with the former in its winged column, differing in its entire lip, and connivent flowers, and agreeing with the latter in its entire lip with a sigmoidal flexure at the base, but differing in the structure of the column and especially in the want of the lateral horn-like processes.

XXVI. DICRYPTA.

Sepala libera, erecta, æqualia. Petala conformia paulò minora. Labellum oblongum, obsoletè trilobum, carnosum, cum columna articulatum, lineâ elevatâ interruptâ disci. Columna cum ovario continua, semiteres, ad basin anticè clavata. Clinandrium convexum. Anthera obsoletè bilocularis. Pollinia 4, complanata, incumbentia (8 . 8): posticis minoribus, materie granulosâ leviter cohærentia.

Habitus et patria ignoti.

1. Dicrypta Baueri.

Habitat . . . . (*v. ic. Bauerianam.*)

Pedicellus medio articulatus, bracteâ oblongâ glabrâ vaginatus. Ovarium pedicello paulò longius, cylindraceum, angulis placentariis costalibusque subæqualibus. Flos luteus sepalis extùs punctatis. Clinandrium convexum emarginatum, cavitate levi pro anthera recipienda. Anthera papillosa. Capsulæ valvulæ subæquales.

I only know this curious plant from a sketch of the flowers made by Mr. Bauer from a plant that blossomed at Kew, September 3, 1806. It is not noticed in the 5th volume of the Hortus Kewensis published in 1813.

XXVII. MESOCLASTES.

Sepala conniventia v. (anthesi peractâ?) reflexa, æqualia, libera: lateralibus carinatis. Petala sepalis subæqualia. Labellum integrum, concavum, cum columnâ parallelum, subcochleatum, medio interruptum, dimidiâ superiore ovatâ subcordatâ; venis simplicibus a basi labelli radiantibus. Columna cum ovario continua, non cum labello articulata,

nana, aptera. Anthera subrotunda, inappendiculata, bilocularis. Pollinia 2, libera, medio foveata. Ovarium triquetrum.—Herbæ caulescentes, foliis teretibus, floribus solitariis v. paucis.

1. Mesoclastes uniflora. *Lindl. in Wall. Cat. no.* 1993.

M. floribus solitariis, labelli dimidiâ superiore medio callosâ,

Hab. in *Gossain Than, Wallich.* (*hab. s. sp. ex Herb. Anglo-Indico.*)

Labellum dimidiæ inferioris venis incrassatis. Sepala conniventia. Folia paulò majora quam in sequente. Capsula lineari-oblonga sesquiuncialis.

2. Mesoclastes brachystachys. *Lindl. l. c. no.* 1994.

M. spicis brevibus densis paucifloris, labelli dimidiâ superiore ecallosâ.

Hab. in Sylhet, *Indiæ Orientalis, Wallich.* (*hab. s. sp. ex Herb. Angl. Ind.*)

Sepala demum reflexa. Labellum dimidiæ inferioris venis versus basin evanescentibus. Caules duri. Folia filiformia subtortuosa. Hujus tantum vidi pollinia.

Section II. Dendrobieæ.

Orchideæ; *Tribus* Malaxideæ,** Dendrobieæ. *Lindley in Bot. Reg. fol.* 1291.

Columna in ovario recumbens, ad basin longiùs producta.

Artificial Analysis of the Genera.

Pollinia 2; v. 1 bipartibile.

Labellum bilobum (cum columna continuum)	
Petala unguiculata. Sepala lateralia omninò connata	29. Lyræa.
Petala sessilia. Sepala lateralia basi tantum connata	28. Cochlia.
Labellum integrum, v. trilobum (cum columna articulatum)	
Petala multifida: laciniis clavatis appendiciformibus	36. Epicranthes.
Petala indivisa	
Labellum calcaratum - - -	35. Microcœlia.
Labellum ecalcaratum	
Folia plana - - - -	39. Diglyphosa.
Folia equitantia - - - -	44. Oxystophyllum.

Pollinia 4. (nunc in unum connata.)

Petala nulla - - - - - -	37. Monomeria.
Petala duo.	
Sepalum posticum majus, lateralibus altè connatum	30. Megaclinium.
Sepalum posticum liberum	
Labellum cum columna connatum	
Labelli limbus longè unguiculatus - -	38. Stenoglossum.
Labelli limbus sessilis dilatatus - -	46. Metachilum.
Labellum liberum, v. tantum cum basi producta columnæ connatum	
Labellum unguiculatum, planum; (sæpiùs integerrimum et carnosum)	
Sepala lateralia acuminatissima supremo nano	32. Cirrhopetalum.
Sepala lateralia supremo subæqualia	
Petala et labellum minima conformia -	33. Trias.
Labellum petalis majus difforme	
Sepala reflexa - - -	34. Macrostomium.
Sepala erecta - - -	31. Bolbophyllum.

Labellum sessile cucullatum ; (sæpiùs trilobum et membranaceum)
  Folia plana
    Labellum posticum. Flores carnosi. Alabastra trigona - - - - - } 45. POLYSTACHYA.
    Labellum anticum (sæpiùs). Flores membranacei. Alabastra teretia - - } 47. DENDROBIUM.
  Folia equitantia - - - - - 43. APORUM.

Pollinia 8.

Clinandrium cucullatum, margine erecto membranaceo. Anthera immersa - - - - - - - - } 41. PHREATIA.
Clinandrium non cucullatum.
  Sepala lateralia basi æqualia - - - - - 40. MYCARANTHES.
  Sepala lateralia basi valdè obliqua - - - 42. ERIA.

XXVIII. COCHLIA.

Cochlia. *Blume Bijdr.* 320. *tabellen* 59.

Sepala erecta : lateralibus basi connatis. Petala minora. Labellum basi angustatum, ungui columnæ junctum, adscendens, supernè in limbum semilunatum margine revolutum et verrucosum dilatatum. Columna bicornis, recumbens. Anthera semibilocularis, columnam posticè terminans. Pollinia 2, ovata, libera.—Herba epiphyta caulescens. Caules vaginis scariosis imbricati. Folia coriacea, ovato-elliptica, suprà convexa, subtùs concava. Pedunculi laterales, solitarii. Flores capitati, violacei. *Character ex Blume.*

1. COCHLIA violacea. *Blume l. c.*

Hab. ad montem Salak insulæ *Javæ,* supra arbores, florens Novembri Decembri ; Blume.

XXIX. LYRÆA.

Sepala conniventia inæqualia : lateralibus inter se et cum basi producta columnæ connatis. Petala nana, spatulata. Labellum altè bilobum, cum basi productâ columnæ continuum, (nec articulatum). Columna nana, in ovario recumbens. Pollinia 2, in uno connata.—Herba, habitu Bolbophylli. *Char. ex A. Richard. orch. Maur. p.* 62.

This genus agrees entirely with Bolbophyllum in habit. It is distinguished by its labellum being deeply lobed and continuous, not articulated, with the columna ; by its spatulate petals, and by the cohesion of the lateral sepals.

1. LYRÆA prismatica.

Bulbophyllum prismaticum. *Thouars orch. Afr. t.* 109. *A. Rich. orch. Maur. p.* 62. *t.* 8. *no.* 3.

Hab. in insulis *Mauritii* (Thouars, Bory), *Borboniæ* (Bory), supra arbores et saxa ; A. R.

Folia gemina e pseudo-tubere subtetragono, coriacea, oblongo-lanceolata, obtusa, obliquè emarginata. Scapus gracilis radicalis, palmaris, versus basin squamatus. Rachis gracilis. Flores lutescentes in spicam raram dispositi, ex axilla bracteæ semicordatæ amplexicaulis.

XXX. MEGACLINIUM.

Megaclinium. *Lindl. in Bot. Reg.* 989.

Sepala erecta, inæqualia: lateralibus minoribus cum columna connatis. Petala nana. Labellum nanum integerrimum cum basi columnæ elasticè articulatum. Columna nana marginata disciformis in apicem ovarii prona basi vix producta. Anthera obsoletè bilocularis. Pollinia 4, libera, per paria cohærentia, æqualia.—Herbæ epiphytæ, rhizomate repente pseudo-bulbifero. Folia coriacea, avenia. Racemi radicales. Rachis dilatata, compressa.

A genus nearly related to Bolbophyllum from which however it is abundantly distinct.

1. Megaclinium falcatum. *Lindley.*

M. foliis binis ovalibus emarginatis biplicatis, rachi compressâ falcatâ crenatâ, sepalo supremo obtuso apice utrinque calloso: lateralibus reflexis bidentatis, petalis minimis subulatis obtusis.

Megaclinium falcatum. *Lindley in Bot. Reg. t.* 989.

Hab. in *Sierra Leone* (*v. v. cult.*)

The lip of this plant is elastically articulated with the column, and exhibits a beautiful instance of vegetable irritability, analogous to that of some species of Pterostylis. The lip moves up and down with great rapidity, much in the same way as the head of the Chinese images of Mandarins.

2. Megaclinium maximum.

Hab. in *S. Leone*; *Smeathman* (*v. s. sp. in Herb. Banks. sine floribus et foliis.*)

Rachis 5 uncias longa, semunciam lata, complanata, crenata. Scapus pedalis. Rhizoma pennæ cygneæ crassitudine. Pseudo-bulbus oblongus, verosimiliter angulatus.

XXXI. BOLBOPHYLLUM.

Bulbophyllum. *Thouars orch. Afr. Lindley in Bot. Reg.* 832. *Orch. scel. no.* 143.—Bolbophyllum. *Spreng. syst.* 3. *p.* 732.—Diphyes. *Blume Bijdr.* 310. *tabellen* 66.—Tribrachia. *Lindl. in Bot. Reg.* 832.—Anisopetalum. *Hooker Fl. Exot.* 149.

Sepala erecta, acuminata, subæqualia, lateralibus cum pede columnæ connatis et basi obliquis. Petala nana (rarissimè sepalis subæqualia). Labellum cum pede columnæ articulatum, unguiculatum, sæpiùs integrum, et posticum. Columna nana, anticè bidentata, v. bicornis. Anthera 1-v. 2-locularis. Pollinia 4, libera, valdè inæqualia, nunc in uno connata, nunc per paria cohærentia, altero cujusvis paris minuto lobuliformi.—Herbæ epiphytæ, rhizomate repente pseudo-bulbifero. Folia coriacea, avenia. Racemi radicales.

I have no hesitation in referring all the above cited genera hither. When I published Tribrachia I was only acquainted with Bolbophyllum through Du Petit Thouars's figures; I now know them to be the same. Diphyes is obviously a synonym. Dr. Hooker's Anisopetalum differs only in the greater inequality of the sepals. Even Cirrhopetalum itself is less distinct from Bolbophyllum than would appear from the inspection of the 1st and 2nd species.

§ I. *Flores fasciculati v. solitarii, radicales, speciosi.*

1. BOLBOPHYLLUM leopardinum. *Lindl. in Wall. Cat. no.* 1981.

B. pseudo-bulbis cæspitosis ovato-oblongis vestitis, foliis coriaceis rigidis oblongis solitariis petiolatis, floribus radicalibus fasciculatis globoso-campanulatis, sepalis ovatis guttatis subæqualibus, petalis minoribus conformibus, labello carnoso ovato obtuso integerrimo.

Dendrobium leopardinum. *Wallich Tentamen vol.* 1. *p.* 39. *t.* 28.

Hab. in *India Orientali* in monte Chandaghiry super arborum truncos; *Wallich.* (*habeo s. spont. e Museo Anglo-Indico.*)

This is the handsomest species of the genus and is remarkable for its large globose pale yellowish green flowers spotted with purple. Dr. Wallich's description in the work above quoted is excellent.

2. BOLBOPHYLLUM affine. *Lindl. l. c. no.* 1982.

B. rhizomate crasso repente, pseudo-bulbis oblongis teretibus, foliis coriaceis rigidis oblongis solitariis petiolatis emarginatis, floribus radicalibus solitariis, sepalis petalisque æqualibus ovato-lanceolatis, labello carnoso ovato-lanceolato obtuso integerrimo.

Hab. in *Napalia, Wallich.* (*habeo s. sp. e Museo Anglo-Indico.*)

This species is nearly related to the preceding, with which it agrees in the position and size of its flowers, but it differs from it in their being solitary, in the more lanceolate figure of the floral envelopes, and especially in the petals being as large as the sepals; a solitary case in this genus.

3. BOLBOPHYLLUM mutabile.

B. "foliis coriaceis lanceolatis retusis, pedunculis folio brevioribus bifloris." *Blume.*

Diphyes mutabilis. *Blume Bijdr.* 312.

Hab. in sylvis altioribus montis Salak insulæ *Javæ*, florens Julio Septembri; Blume.

"Caules ebulbi. Pedunculi breves pauciflori. Gynostemium bicuspidatum. Anthera 1-locularis. Flores virescentes demum crocei; sepala exteriora acuminata; labellum miniatum; limbus obtusus, subcrenulatus." *Blume.*

4. BOLBOPHYLLUM ciliatum.

B. "bulbis remotis, foliis lineari-lanceolatis, pedunculis folio brevioribus." *Blume.*

Diphyes ciliata. *Blume Bijdr.* 317.

Hab. ad originem fluvii Tjiburrum *Javæ*, in montosis Gede, florens Junio; Blume.

"Pedunculi solitarii uniflori. Flores violacei, sepalis exterioribus acuminatis, labelli limbo ciliolato." *Blume.*

5. BOLBOPHYLLUM cernuum.

B. "bulbis approximatis, foliis lanceolatis, pedunculis folio longioribus cernuis." *Blume.*

Diphyes cernua. *Blume Bijdr.* 318.

Hab. in sylvis humidis montis Salak, *Javæ*, florens Septembri; Blume.

"Pedunculi solitarii uniflori. Flores purpurascentes, sepalis exterioribus elongatis, labelli limbo margine reflexo, antherâ cristatâ." *Blume.*

6. BOLBOPHYLLUM parvulum.

B. " bulbis approximatis depressis, foliis ovalibus obtusis, pedunculis folio valdè longioribus, sepalis exterioribus inæqualibus acutis, labelli limbo obtuso glanduloso tumido." *Blume.*

Diphyes pusilla. *Blume Bijdr.* 317.

Hab. in sylvis montis Salak, *Javæ,* ad corticem arborum, florens Junio Decembri ; Blume.

" Pedunculi solitarii uniflori. Flores aurantiaci, sepalo dorsali nervoso." *Blume.*

7. BOLBOPHYLLUM hirsutum.

B. " bulbis approximatis, foliis lanceolatis, sepalis exterioribus subæqualibus apice hirsutis, labelli limbo obtuso intus glanduloso." *Blume.*

Diphyes hirsuta. *Blume p.* 318.

Hab. prope cataractas calidas montis Gede supra arbores et in altioribus Salak, *Javæ,* florens Maio Augusto ; Blume.

" Flores aurantiaci, sepalis ovali-oblongis acutis striatis, labello internè lineis 2 elevatis notato."

8. BOLBOPHYLLUM ovalifolium.

B. " bulbis approximatis, foliis ovalibus, sepalis exterioribus lanceolatis inæqualibus, labelli limbo obtuso." *Blume.*

Diphyes ovalifolia. *Blume p.* 318.

Hab. in montosis Gede, *Javæ,* florens Junio ; Blume.

" Flores flavo-virentes, sepalis lateralibus dorsali majoribus, labello brunneo."

9. BOLBOPHYLLUM inæquale.

B. " bulbis approximatis, foliis lineari-lanceolatis obtusis, sepalis lateralibus postico ferè duplò longioribus acuminatis, labelli limbo verrucoso." *Blume.*

Diphyes inæqualis. *Blume p.* 319.

Hab. in sylvis primævis montis Pangoerangoe, *Javæ,* florens Novembri ; Blume.

" Flores aurantiaci, nervis atropurpureis. Labellum atropurpurascens."

10. BOLBOPHYLLUM bicolor.

B. pseudo-bulbis ovalibus, foliis solitariis oblongis coriaceis emarginatis floribus longioribus, corymbo trifloro pedunculato, sepalo supremo oblongo cuspidato : lateralibus lanceolatis longioribus, petalis oblongis cuspidatis, labello ovato obtuso.

Hab. in *China ; Reeves.* (*v. ic. pict. Sinens. in Bibl. Hort. Soc.*)

Flores speciosi, crocei. Sepalum supremum et petala apice purpurea purpureo punctata. Labellum croceum puncticulatum.

11. BOLBOPHYLLUM tenellum.

B. " bulbis approximatis, foliis lanceolatis obtusis, sepalis inæqualibus : lateralibus ovalibus obtusis dorsali lanceolato majoribus, labelli limbo tumido verrucoso." *Blume.*

Diphyes tenella. *Blume p.* 319. *t.* 66.

Mo. Bot. Garden, 1902.

Hab. propè Passir Ipis provinciæ Buitenzorg, *Javæ*, florens Julio; Blume.

" Flores pallidè aurantiaci; labellum atropurpureum, infernè canaliculatum."

12. BOLBOPHYLLUM gracile.

B. " bulbis approximatis, foliis lineari-spatulatis, sepalis exterioribus acuminatis." *Blume.*

Diphyes gracilis. *Blume p.* 319.

Hab. in sylvis humidis montis ignivomi Gede, *Javæ*, florens Junio; Blume.

" Flores pallidè aurantiaci, limbo labelli obtuso, glanduloso."

13. BOLBOPHYLLUM mucronatum.

B. " bulbis remotis, foliis ovalibus planis mucronulatis, labello carinato." *Blume.*

Diphyes mucronata. *Blume p.* 317.

Hab. in montanis Pantjar, *Javæ*, florens Junio Julio; Blume.

" Pedunculi confertè multiflori. Flores pallidè flaventes, sepala exteriora acuminata, subæqualia, internè spatulata, acuta. Gynostemium integrum."

14. BOLBOPHYLLUM tenuifolium.

B. " bulbis remotis, foliis ovalibus margine recurvis, labello internè carinato." *Blume.*

Diphyes tenuifolia. *Blume p.* 316.

Hab. in sylvis montis Salak, *Javæ*, florens Octobri; Blume.

" Pedunculi confertè multiflori. Flores pallidè flavi, sepalis exterioribus subæqualibus, dorsali nervis atropurpureis, interioribus minutissimis, obtusis, margine punctis purpureis variegatis. Labellum eglandulosum. Anthera dorso cristata." *Blume.*

15. BOLBOPHYLLUM violaceum.

B. " bulbis remotis, foliis lanceolatis obtusis, sepalis interioribus obliquè emarginatis." *Blume.*

Diphyes violacea. *Blume p.* 316.

Hab. in sylvis Salak, *Javæ*, florens Septembri; Blume.

" Pedunculi confertè multiflori. Flores violacei, sepalis exterioribus acuminatis. Labellum obtusum, limbo flavo. Anthera dorso glandulosa."

16. BOLBOPHYLLUM tortuosum.

B. " foliis lineari-lanceolatis, labello utrinque hirsuto, gynostemii appendicibus tortuosis." *Blume.*

Diphyes tortuosa. *Blume p.* 311.

Hab. in arboribus ad montem Salak, *Javæ*, florens Octobri; Blume.

" Sepala exteriora nervis 3 atropurpureis. Labellum carnosum, atropurpureum, limbo luteo. Caules ebulbi."

§ II. *Flores spicati v. racemosi; rachi filiformi.*

17. BOLBOPHYLLUM auricomum. *Lindl. in Wall. Cat. no.* 1985.

B. pseudo-bulbis ovatis teretibus, foliis . . . . . .; scapis elongatis erectis,

spicâ cernuâ multiflorâ, sepalis ovatis acuminatis æqualibus glaberrimis, petalis obtusis ciliatis, labello minimo ovato obtuso carnoso integerrimo.

Hab. in Tavoy, *Indiæ Orientalis, Wallich.* (*habeo s. sp. e Museo Anglo-Indico.*)

Pollinia 4, per paria cohærentia, interioribus minimis lobuliformibus.

18. BOLBOPHYLLUM hirtum. *Lindl. l. c. no.* 1989.

B. pseudo-bulbis cæspitosis ovatis teretibus, foliis ......; scapis erectis pubescentibus, spicis recurvis villosis multifloris, sepalis acuminatis subæqualibus, petalis minutis ovatis, labello lineari integerrimo retuso.

Stelis hirta. *Smith! in Rees.*
Tribrachia hirta. *Lindley Coll.* 41.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

Omnes partes floris valdè hirtæ. Flores virescentes. Scapi 4-unciales; spicæ æquilongæ. Pollinia 4, per paria cohærentia; interioribus minimis excavatione majorum jacentibus.

19. BOLBOPHYLLUM Careyanum. *Spreng.*

B. rhizomate repente, pseudo-bulbis ovatis angulatis, foliis lineari-loratis erectis solitariis, spicis cylindraceis densifloris erectis pseudo-bulbis longioribus, sepalis lateralibus maximis, petalis triangularibus apice subulatis, labello trilobo plano: lobis lateralibus abbreviatis.

Pleurothallis purpurea. *Don Prodr.* 33.
Tribrachia purpurea. *Lindl. Coll.* .
Anisopetalum Careyanum. *Hooker l. c. t.* 149.
Bolbophyllum Careyanum. *Spreng. syst.* 3. 732. *Wall. Cat. no.* 1990.

Hab. in *Napalia* et *Martabania, Wallich.* (*hab. s. sp. e Museo Angl. Ind.*)

Flores in icone Hookerianâ sepalis sordidè luteis purpureo maculatis, petalis flavis, labello plumbeo violaceo, columnâ croceâ; in Wallichiano fusco-purpurei sine ullo alio colore. Pollinia 4, per paria cohærentia, interioribus minimis nec æqualibus ut vult cel. Hooker.

20. BOLBOPHYLLUM reptans. *Lindl. l. c. no.* 1988.

B. rhizomate repente, pseudo-bulbis ovatis teretibus, foliis solitariis linearibus apice obsoletè bidentatis, scapo erecto foliis breviore, racemo laxo, bracteis membranaceis ovario longioribus, sepalis lanceolatis subæqualibus: lateralibus basi obliquis, petalis minutis oblongis obtusis, labello ovato integerrimo, columnâ bicorni.

Tribrachia reptans. *Lindley Coll.* 41. *t. A.*

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Sepala pallidè crocea; petala alba; labellum disco purpurascens. Pseudobulbi juniores ramentis vestiti; adulti nudi.

21. BOLBOPHYLLUM variegatum. *Thouars.*

B. rhizomate repente, pseudo-bulbis ovato-subrotundis teretibus, foliis binis lineari-loratis acutis, scapis erectis foliis brevioribus, spicis nutantibus, sepalis acuminatis, petalis ovatis, labello canaliculato integerrimo obtuso, bracteis maximis.

Bulbophyllum variegatum. *Thouars orch. Afr. t.* 105. 106. *A. Rich. orch. Maur. p.* 64.
Bulbophyllum nutans. *A. Rich. orch. Afr. p.* 63. *t.* 8. *no.* 2.

Hab. in insula *Borboniæ*; Thouars.

22. Bolbophyllum nutans. *Thouars.*

B. rhizomate repente filiformi, pseudo-bulbis subrotundis subquadratis, foliis binis oblongis retusis, scapis foliis longioribus subnutantibus, sepalis ovatis acutis, petalis minoribus conformibus, labello ovato canaliculato subcordato.

Bulbophyllum nutans. *Thouars t.* 107. *Ach. Rich. orch. Maur. p.* 63.

Hab. in insulis *Mauritii* et *Borboniæ*, Commerson, Thouars.

23. Bolbophyllum pendulum. *Thouars.*

B. rhizomate filiformi, pseudo-bulbis subrotundis subquadratis, foliis binis lineari-oblongis emarginatis, scapis foliis brevioribus recurvis, sepalis oblongis acutis : lateralibus collateralibus majoribus, petalis ovatis, labello carnoso cordato-ovato obtuso.

Bulbophyllum pendulum. *Thouars t.* 104. *A. Rich. p.* 65.

Hab. in *Mauritio*; Thouars.

24. Bolbophyllum densum. *Thouars.*

B. rhizomate repente, pseudo-bulbis ovalibus, foliis binis lineari-loratis obliquè emarginatis scapis brevioribus, spicis erectis, sepalis ovatis inferioribus majoribus, labello ovato-cordato integerrimo.

Bulbophyllum densum. *Thouars t.* 108. *A. Rich. p.* 64.

Hab. in *Mauritio*, Thouars.

25. Bolbophyllum incurvum. *Thouars.*

B. pseudo-bulbis subquadratis, foliis solitariis ovali-oblongis obliquè emarginatis, scapis erectis foliis longioribus, spicis nutantibus, sepalis acuminatis, petalis linearibus, labello oblongo ciliato, columnâ bicorni.

Bulbophyllum incurvum. *Thouars t.* 95. *A. Rich. orch. Maur. p.* 64.

Hab. in *Mauritio*; Thouars.

26. Bolbophyllum gracile. *Thouars.*

B. pseudo-bulbis ovalibus compressis, foliis geminis lineari-loratis emarginatis scapo erecto gracili brevioribus, vaginis scapi inflatis, spicâ filiformi multiflorâ.

Bulbophyllum gracile. *Thouars t.* 101.

Hab. in *Mauritio*; Thouars.

Flores minimi, vix noti; verosimiliter tamen hujus generis.

27. Bolbophyllum minutum. *Thouars.*

B. rhizomate filiformi, pseudobulbis subrotundis foliis binis oblongis emarginatis subæqualibus, scapo erecto elongato, spicâ pauciflorâ, sepalis ovatis petalisque acutis, labello oblongo convexo integerrimo.

Bulbophyllum minutum. *Thouars t.* 110.

Hab. in *Madagascar*; Thouars.

28. Bolbophyllum Commersonii. *Thouars.*

B. rhizomate repente, pseudo-bulbis oblongis subangulatis, foliis solitariis oblongis obliquè emarginatis, scapo erecto multifloro foliis longiore, floribus . . . . . .

Bulbophyllum Commersonii. *Thouars t.* 97.

Hab. in *Borbonia*; Thouars.

29. Bolbophyllum erectum. *Thouars.*

B. rhizomate filiformi; pseudo-bulbis subrotundis angulatis, foliis oblongis solitariis emarginatis, scapo erecto foliis longiore, spicâ laxâ nutante, sepalis lateralibus acuminatis: supremo acuto, petalis subulatis, labello oblongo ciliato, columnâ muticâ.

Bulbophyllum erectum. *Thouars t.* 96.

Hab. in *Madagascar;* Thouars.

30. Bolbophyllum recurvum.

B. pseudo-bulbis ovatis compressis cæspitosis, foliis solitariis oblongis obliquè emarginatis subtùs purpureo-maculatis, scapis pendulis foliis duplò longioribus, spicis quadrifariàm imbricatis, sepalis ovatis acutis ciliatis, petalis obovatis, labello ovato integerrimo carnoso.

Tribrachia pendula. *Lindley in Bot. Reg. t.* 963.

Hab. in *Sierra Leone. (v. v. cult.)*

Flores virescentes; rachi et labello purpureis. Pollinia 4, omnia cohærentia, interioribus obsoletis.

31. Bolbophyllum tetragonum.

B. pseudo-bulbis ovatis acutè tetragonis, foliis solitariis, rachi tetragonâ pubescente, bracteis oblongis acutis dorso pubescentibus capsularum longitudine, sepalis ovatis æqualibus, petalis subulatis, labello ovato apiculato margine membranaceo serrato.

Hab. in *Sierra Leone. (v. v. cult. sine floribus, et s. spontaneum.)*

Exemplar seminiferum et spicæ partem tantùm vidi. Rachis flexuosa tetragona sulcata, pilis nigris raris adspersa. Bracteæ cymbiformes, subtùs pilosæ, florum longitudine, sessiles, semiamplexicaules. Flores parvi, recti, sepalis ovatis, conniventibus, æqualibus, petalis subulatis columnâ paulò longioribus erectis. Columna subrotundo-ovata, anticè alata (alis marginem rotundatum formantibus a basi anticâ usque ad cardinem antheræ, ubi in processu ovato connascuntur) callo plano prominente elliptico transverso ad ipsam basin anteriorem. Stigma pulvinatum subquadratum, in facie columnæ intra margines. Labellum minimum, oblongum, carnosum, marginatum, faciei columnæ incumbens apice reflexo, marginibus tenuibus serratis.

This curious little plant was formerly cultivated in the Garden of the Horticultural Society, but is now lost. It is frequently sent from Sierra Leone mixed with other epiphytes, and is, I should think, very common in that colony.

32. Bolbophyllum polyrhizum.

B. pseudo-bulbis ovatis cæspitosis, foliis ...., scapis erectis, spicis laxis erectis 5-6-floris, sepalis ovatis obtusis æqualibus, petalis minimis, labello sessili ovato obtuso integerrimo.

Hab. in *India Orientali; Wallich. (v. ic. pict.)*

Pseudo-bulbi atrovirides. Flores viridi lutei.

33. Bolbophyllum cylindraceum.

B. pseudo-bulbis nullis, foliis solitariis oblongo-lanceolatis petiolatis scapis duplò brevioribus, spicâ densissimâ cylindraceâ ad basin spathâ involutâ,

sepalis lateralibus semiovatis planis collateralibus: supremo minore, petalis minimis ovatis obtusis, labello ovato obtuso.

Hab. in *India Orientali*; *Wallich*. (*v. ic. pict.*)

Folia pedalia, atroviridia, squamis cinnamomeis ad basin. Scapi sesquipedales, erecti; spicæ 6-unciales. Flores albi, densissimè imbricati, labello et sepalis lateralibus semper posticis planis: supremo antico abbreviato acuto.

I know this very remarkable plant only from an excellent drawing in Dr. Wallich's possession. It is not more remarkable for its very dense imbricated flowers, which have a great spathe-like bractea at the base of their spike, than for the want of the spurious bulbs, which are, with this single exception, characteristic of the genus.

34. Bolbophyllum gibbosum.

B. "foliis petiolatis lanceolatis obtusiusculis coriaceis, labelli limbo obtuso lineato margine nudo, ungue gynostemii gibboso." *Blume*.

Diphyes gibbosa. *Blume Bijdr.* 312. *tab.* 66.

Hab. in sylvis altioribus montis Salak, *Javæ*, florens Junio; Blume.

"Caules radicantes ebulbi. Pedunculi elongati, solitarii, spicato-multiflori. Gynostemium bifidum. Flores pallidè flavi, labello aurantiaco basi canaliculato. *Variat* foliis acuminatis." Blume.

35. Bolbophyllum odoratum.

B. "foliis petiolatis lanceolatis nervosis, labello internè glanduloso." *Blume*."

Diphyes odorata. *Blume Bijdr.* 312.

Hab. in truncis arborum ad originem fluvii Tjiburrum, *Javæ*, florens Junio; Blume.

"Caules radicantes ebulbi. Pedunculi elongati, solitarii, spicato-multiflori. Gynostemium bifidum. Flores flavi parvi odoratissimi." *Blume*.

36. Bolbophyllum flavescens.

B. "foliis breviter petiolatis lineari-lanceolatis, pedunculo basi vaginato multifloro, labelli limbo obtuso ciliato." *Blume*.

Diphyes flavescens. *Blume Bijdr.* 313.

Hab. in montosis *Javæ* supra arbores; Blume.

"Caules radicantes ebulbi. Pedunculi elongati, solitarii, spicato-multiflori. Gynostemium bifidum. Flores pallidè flavi, sepalis exterioribus acuminatis inæqualibus; labellum infernè carinatum aurantiacum. *Variat α*, spicis trifloris, floribus concoloribus; *β* foliis latioribus longiter petiolatis, spicis multifloris, floribus minoribus concoloribus, labello angusto." *Blume*.

37. ? Bolbophyllum pumilum.

B. "caule radicante filiformi bulbifero, bulbis monophyllis, folio oblongo, scapis basilaribus tenuissimis elongatis apice flexuosis." *Swartz*.

Dendrobium pumilum. *Swartz. Pers. syn.* 2. 523.

Hab. in *Sierra Leone*; Swartz.

§ III. *Flores spicati; rachi clavatâ v. incrassatâ.*

38. Bolbophyllum clavatum. *Thouars.*

B. pseudo-bulbis ovatis diphyllis, foliis oblongo-loratis emarginatis obtusis, rachi clavatâ, floribus semi-immersis, sepalis lateralibus connatis.

Bulbophyllum conitum. *Thouars orch. Afr. t.* 100.
Bulbophyllum clavatum. *Id. t.* 99. *A. Rich. orch. Maur. p.* 61.

Hab. in *Mauritio;* Thouars.

Flores purpurascentes. Pollinium solitarium, subbilobum. *A. Rich.*

Obs. Medium inter Bolbophyllum et Lyræam, illius speciebus conveniens labello, petalis et habitu, vix hac ob sepala lateralia connata consociandum.

39. Bolbophyllum pusillum. *Thouars.*

B. rhizomate filiformi, pseudo-bulbis subquadratis foliorum magnitudine, foliis solitariis oblongis obtusis, scapis erectis foliis longioribus, rachi clavatâ, sepalis ovatis, petalis linearibus, labello ovato-cordato carnoso integerrimo.

Bulbophyllum pusillum. *Thouars t.* 102. *A. Rich. p.* 64.

Hab. in *Mauritio;* Thouars.

40. Bolbophyllum cæspitosum. *Thouars.*

B. rhizomate repente intricato, pseudo-bulbis oblongis subquadratis, foliis geminis lineari-oblongis obliquè retusis, scapis erectis foliis subæqualibus, rachi clavatâ, sepalis ovatis, petalis linearibus acutis, labello sagittato ovato obtuso.

Bulbophyllum cæspitosum. *Thouars t.* 103.

Hab. in *Borbonia;* Thouars.

§ IV. *Flores capitati.* (Cirrhopetalo proxima.)

41. Bolbophyllum radiatum. *Lindl. in Wall. Cat. no.* 1986.

B. rhizomate crasso, pseudo-bulbis elongatis teretibus, foliis oblongis apice integerrimis, scapis erectis filiformibus folio brevioribus, bracteis minimis, floribus capitatis radiatis, sepalis acuminatissimis acutis.

Hab. in Tavoy, *Indiæ Orientalis, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Sepala æqualia. Petala longè aristata. Pollinia 4, per paria cohærentia interioribus minimis.

This species differs from the next in its very taper sepals, in the petals being also finely acuminate, in its obsolete bracteæ, and in the squamæ of the scape being very small, not dilated as in B. odoratissimum. It approaches Cirrhopetalum from which it differs in the equal size of its sepals, and it forms a transition from Cirrhopetalum to Bolbophyllum.

42. Bolbophyllum odoratissimum. *Lindl. l. c. no.* 1987.

B. rhizomate filiformi repente, pseudo-bulbis cylindraceis, foliis solitariis oblongis striatis retusis, scapis erectis folio brevioribus, bracteis membranaceis acuminatis floribus capitatis subæqualibus, sepalis carnosis acuminatis obtusis.

Stelis odoratissima. *Smith! in Rees.*
Stelis caudata. *Don. Prodr.* 32.
Tribrachia odoratissima. *Lindl. Coll.* 41.

Hab. in *Napalia, Wallich;* fortè etiam in *China.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores in capitulis rotundis, depressis. Bracteæ longæ scariosæ, persistentes. Sepala antica basi connata. Petala minuta, membranacea, obtusa. Labellum parvum, ovatum, carnosum, sulcis tribus in medio, in columnam pronum. Columna apice bicornis. Pollinia per paria cohærentia, interioribus minoribus.

There is a Chinese drawing in the collection of the Horticultural Society of what appears to be this species.

43. Bolbophyllum umbellatum. *Lindl. l. c. no.* 1984.

B. rhizomate repente, pseudo-bulbis ovatis subangulatis, foliis solitariis lineari-loratis obtusis emarginatis, scapis foliis triplò brevioribus, floribus corymbosis, sepalis lateralibus obliquis falcatis obtusis majoribus, petalis ovatis obtusis, labello cordato ovato complicato integerrimo, columnâ marginatâ bicorni.

Hab. in *Napalia, Wallich.* (*hab. s. sp. defloratum e Museo Anglo Indico, et v. ic. pict.*)

Flores subumbellati, virides, longè pedunculati, majores. Sepalum supremum lateralibus multò minus. Pollinia tantum 2, ex icone Wallichiano.

44. Bolbophyllum caudatum. *Lindl. l. c. no.* 1983.

B. rhizomate filiformi intricato, pseudo-bulbis ovatis subquadratis, foliis ovatis solitariis, floribus capitatis, scapis pseudo-bulbis æqualibus, sepalis lateralibus longissimè filiformi-acuminatis: supremo acuminato, petalis minutis ovatis, labello trilobo, columnâ bicorni.

Hab. in *Napalia, Wallich.* (*habeo s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

This beautiful little species is at once recognized by the long filiform terminations of its lateral sepals, and the shorter termination of the upper. The flowers are small, pure white, and almost hidden among the leaves.

45. Bolbophyllum capitatum.

B. "bulbis remotis compressis, foliis lanceolatis acutis, pedunculo brevi, floribus 5-7 laxè capitatis bracteis canaliculatis cinctis." *Blume.*

Diphyes capitata. *Blume p.* 314.

Hab. ad truncos arborum in sylvis primævis Gede et Salak, *Javæ,* florens Aprili; Blume.

"Flores mediocres, pallidè flaventes, sepalis exterioribus acuminatis, lateralibus dorsali majoribus; interioribus obtusis: labellum tumidum, basi canaliculatum; limbus obtusus. *Variat* bulbis teretiusculis et subcompressis, foliis acutiusculis v. obtusis." *Blume.*

46. Bolbophyllum obtusum.

B. "bulbis subremotis, foliis lineari-lanceolatis obtusis, pedunculo brevi apice 2-3-floro." *Blume.*

Diphyes obtusa. *Blume p.* 315.

Hab. in sylvis obscurioribus montium Gede et Salak, *Javæ,* florens Aprili Maio; Blume.

"Planta pusilla; flores pallidè flaventes, sepalis exterioribus acuminatis: lateralibus dorsali majoribus apice incrassatis, interioribus acutis; labelli limbo obtuso. *Variat* bulbis fusinis et ovatis, et etiam latitudine foliorum." *Blume.*

47. BOLBOPHYLLUM sulcatum.

B. " bulbis ovatis oblongis sulcatis remotis; foliis lineari lanceolatis obtusis, pedunculis filiformibus folio longioribus 3-floris, sepalis exterioribus acuminatis subæqualibus." *Blume.*

Diphyes sulcata. *Blume p.* 314.

Hab. in cacumine montis Salak, *Javæ,* florens Augusto; Blume.

" Planta pusilla, hinc T. angustifoliæ inde T. obtusæ affinis, floribus pallidè flavescentibus."

48. BOLBOPHYLLUM angustifolium.

B. " bulbis fusinis remotis, foliis lineari-lanceolatis acutis, pedunculis folio brevioribus, floribus laxè capitatis." *Blume.*

Diphyes angustifolia. *Blume p.* 314.

Hab. in montosis Gede et Salak, *Javæ,* florens Junio Octobri; Blume.

" Flores parvi, sepalis exterioribus acuminatis apice aurantiacis. *Variat* bulbis ovatis, foliis lanceolatis obtusiusculis v. obtusis, in sylvis montis Salak prope Passir *Java,* florens Augusto." *Blume.*

49. BOLBOPHYLLUM croceum.

B. " bulbis remotis, foliis lato-lanceolatis, pedunculis nutantibus, floribus densè capitatis." *Blume.*

Diphyes crocea. *Blume p.* 313.

Hab. in sylvis montosis Salak et Burangrang, *Javæ,* florens Junio Novembri; Blume.

" Flores crocei, sepalis exterioribus longissimè acuminatis. Labellum crassum; limbus internè pubescens. *Variat* floribus pallidè flaventibus foliis angustioribus." *Blume.*

50. BOLBOPHYLLUM laxiflorum.

B. " bulbis remotis, foliis lanceolatis, pedunculis cernuis." *Blume.*

Diphyes laxiflora. *Blume p.* 316.

Hab. ad margines fluvii Tjiapus supra arbores, *Javæ,* florens Decembri; Blume.

" Flores pallidè flavi, sepalis acuminatis; labellum internè linea promi nente notatum, infernè aurantiacum."

Species dubiæ v. parùm cognitæ.

51. ? BOLBOPHYLLUM serpens.

B. " caule radicante bulbifero, bulbis diphyllis, foliis ovatis, scapis radicalibus." *Swartz.*

Cymbidium reptans. *Swartz nov. act. Ups.* 6. *p.* 71.
Dendrobium reptans. *Swartz act. Holm.* 1800. *p.* 247. *Willd. no.* 25. *Pers. syn.* 2. 523.

Hab. in *Mauritio*; Swartz.

52. ? BOLBOPHYLLUM galeatum.

B. " caule communi reptante radicantique, partialibus vaginatis monophyllis, folio lato-lanceolato obtuso, racemo multifloro, floribus conicis incurvo-galeæformibus." *Swartz.*

Dendrobium galeatum. *Swartz Pers syn.* 2. 523.

Hab. in *Sierra Leone*; *Afzelius*. (*adest in Herb. Banks.*)

Non Dendrobium, vix Bolbophyllum; nescio quid. Flores magni, desiccatione nigri, verosimiliter carnosi.

53. Bolbophyllum pygmæum.

B. rhizomate repente filiformi, foliis solitariis subsessilibus ellipticis pubescentibus coriaceis.

Dendrobium pygmæum. *Smith in Rees.*

Hab. in *Nova Zelandia*. (*v. s. defloratum in Herb. Smith.*)

"Stems thread-shaped, slender. Leaves alternate on very short footstalks, elliptical, obtuse, rèvolute, coriaceous rather than fleshy; ribbed and roughish beneath; clothed above with short, prominent downy hairs. Each footstalk proceeds from a little round bulb like a ring, smooth and shining yellowish and much wrinkled in a dry state but apparently very succulent when fresh." *Smith l. c.*

XXXII. CIRRHOPETALUM.

Cirrhopetalum. *Lindl. in Bot. Reg.* 832. (Oct. 1824). *Orch. scel. no.* 149.—Zygoglossum. *Reinwardt in Bot. Zeitung* 1825. *vol.* 2. *p.* 4.

Sepala ringentia: lateralibus acuminatis, valdè obliquis, basi productæ columnæ adnatis, supremo multò longioribus. Petala nana apiculata. Labellum integrum, cum basi columnæ articulatum. Columna minima basi longè producta, apice cornubus duobus petaloideis. Anthera bilocularis. Pollinia 4, quorum 2 interiora multò minora, lamelliformia.—Herbæ epiphytæ, rhizomate repente, pseudo-bulbos monophyllos gerente. Folia coriacea avenia. Flores densè racemosi, nunc radiati, in apice scapi radicalis.

The great obliquity of the base, and elongation of the apex of the lateral sepals distinguish this from Bolbophyllum, with which it is connected through B. caudatum which has a short upper sepal.

1. Cirrhopetalum Thouarsii. *Lindl.*

C. petalis ciliatis sepaloque supremo aristatis, foliis oblongis obtusis emarginatis scapo brevioribus.

Epidendrum umbellatum. *Forst.!* non *Swartzii.*
Bulbophyllum longiflorum. *Thouars orch. Afr. t.* 98.
Cirrhopetalum Thouarsii. *Lindl. in Bot. Reg.* 832 in textu.
Zygoglossum umbellatum. *Reinw. l. c.*
Cymbidium umbellatum. *Spreng. syst.* 3. 723.

Hab. in *Otaheite* (*Forster*); in *Java* (Reinwardt); in *Mauritio* et *Madagascar* (Thouars). (*v. s. sp. in Herb. Banks. sine floribus.*)

Flores fusci; *Thouars.*

2. Cirrhopetalum Roxburghii.

C. petalis ciliatis acutis, sepalis omnibus acuminatis, foliis lanceolatis, umbellâ radiatâ multiflorâ.

Aerides radiatum. *Roxb. Mss. in Museo Indico.*

Hab. arborum epiphytum ad ostia *Gangis*, florens tempore pluvioso; Roxburgh.

Affinitatem cum C. Wallichii indicavit cl. Wallich. Folia 3-4 uncias longa

unâ latitudine minora. Scapus umbellam 10-12-floram gerens. Flores lutei: sepalum supremum et petala purpureo-venosa: sepala lateralia basi leviter connata supremo quintò v. sextò longiora, falcata. Columna anticè alata. *Roxb. Mss.*

3. CIRRHOPETALUM vaginatum. *Lindl. in Wall. Cat. no.* 1979.

C. sepalo supremo obtuso mutico; inferioribus longissimè acuminatis, vaginis scapi oblongis obtusis ventricosis, racemo paucifloro recurvo.

Hab. ad *Singapore*, supra arbores crescens, florens Octobri, *Wallich.* (*v. s. sp. in Herb. Mus. Anglo-Ind.*)

Rhizoma repens tortuosum. Pseudo-bulbi parvi ovato-oblongi. Folia ignota. Scapus 4 uncias altus vaginis tribus vestitus. Racemus brevis recurvus, 4-5-florus, bracteis acuminatis elongatis.

4. CIRRHOPETALUM Blumii.

C. petalis pubescentibus acutis, sepalis omnibus acuminatis, foliis lineari-lanceolatis, pedunculis unifloris.

Ephippium ciliatum. *Blume Bijdr.* 309. *tab.* 65.

Hab. in sylvis altioribus montis Salak, *Javæ*, florens Junio; Blume.

Pseudo-bulbi ovati, sulcati. Sepalum dorsale canaliculatum infernè ciliolatum. Labellum orbiculatum longissimè cuspidatum. Columna bicornis; ex *Blume.*

5. CIRRHOPETALUM Wallichii. *Lindl. l. c. no.* 1980.

C. petalis sepaloque supremo oblongis retusis muticis, foliis oblongo-lanceolatis obtusis scapi longitudine.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Species cæteris duplò minor, caule filiformi pseudo-bulbifero. Pseudo-bulbi ovati monophylli. Folia coriacea, 3 uncias longa, obtusa, subseptemvenia, subtus purpurea punctulata. Scapi radicales 3-unciales squamis circiter tribus vestita. Umbellæ 4-floræ, (6-8-floræ, *Wall.*) bracteis paucis subulatis. Flores fulvi, horizontales. Petala et sepalum supremum conformia trivenia, basi leviter sanguinea; sepala lateralia basi torta, falcata, acuminata. Labellum ovatum conduplicatum integerrimum petalis multò minus, cum pede incurvo columnæ articulatum, intùs punctatum. Columna bidentata. Pollinia 2? potius 4 per paria agglutinata. *Ad iconem Wallichianam.*

6. CIRRHOPETALUM Macræi.

C. petalis apiculatis nudis, sepalis omnibus acuminatis, foliis oblongo-lanceolatis obtusis emarginatis scapo subæqualibus.

Hab. in sylvis Zeylonæ arboribus insidens; *Macrae.* (*habeo s. sp. et v. ic. pict.*)

Umbella pauciflora. Flores pallidè virides fusco-rubro venosi. Sepalum supremum acuminatum; lateralia valdè elongata acuminatissima cum basi valdè producta columnæ connata. Petala falcata, sepalo supremo paulò minora, obtusa, purpurea, apiculata, glabra. Labellum non vidi, cum columnæ pede articulatum. Columna libera, utrinque alata, ad apicem in cornua duo membranacea falcata hinc bidentata elongata. Pollinia 4, quorum duo interiora multò minora lamelliformia.

XXXIII. TRIAS.

Sepala æqualia, ovata, patentia, basibus suis connata, a pede columnæ ferè libera. Petala minima, erecta. Labellum minimum, indivisum, in columnam pronum et cum ejus basi producta articulatum, ad latera leviter semidentatum. Columna nana, semiteres, marginata, libera. Anthera bilocularis, apice in membranam petaloideam, cuneatam, emarginatam, producta. Pollinia 4, duobus interioribus minoribus.—Herbæ minimæ, pseudo-bulbis subrotundis glabris cæspitem densum formantibus, monophyllis, foliis parvis coriaceis aveniis. Pedunculi erecti, radicales, foliis breviores, uniflori. Flores majusculi, viridi-fusci, aperti triangulum efficientes.

Est Stelis inter Dendrobieas.

1. TRIAS oblonga. *Lindl. in Wall. Cat. no.* 1977.

T. foliis oblongis.

Hab. in Moalmyn, *Indiæ Orientalis, Wallich.* (*hab. s. sp. ex Herbario Angl. Ind. et v. ic. pict.*)

Flores fusco-virides, labello purpurascente, petalis fusco-viridibus.

2. TRIAS ovata.

T. foliis ovatis.

Hab. in *India Orientali, Wallich.* (*v. ic. pict.*)

An prioris mera varietas, foliorum formâ et labello viridi nec purpureo præcipuè diversa. Petala alba rubro striata.

XXXIV. MACROSTOMIUM.

Macrostomium. *Blume Bijdr. p.* 335. *t.* 37.

Sepala reflexa; lateralibus cum basi producta columnæ in calcar breve obtusum connatis. Petala minora, reflexa. Labellum ecalcaratum, unguiculatum, medio dilatatum, concavum, cum ungue columnæ basi connatum, eodem continuum; limbo elongato, spatulato, emarginato, recto, supra columnam fornicato. Anthera denti dorsali columnæ inserta, bilocularis, convexa. Pollinia duo, bipartibilia, ovato-oblonga, cereacea, margini stigmatis ligulato adhærentia. *Ex Blume.*

This appears to differ from Aporum in nothing but its reflexed sepals; a character however of no mean importance.

1. MACROSTOMIUM aloefolium. *Blume l. c. t.* 37.

Hab. in arboribus excelsis montis Salak, *Javæ,* florens Junio; Blume.

XXXV. MICROCŒLIA.

Sepala libera, æqualia. Petala conformia, paulò minora. Labellum cum columna articulatum, calcaratum, calcare ventricoso, limbo nano indiviso. Columna minima, libera, cum ovario continua. Anthera stipitata, apice membranacea, bilocularis. Pollinia libera, in loculis solitaria, medio foveata.—Herba fortè aphylla, caulescens, radicibus numerosissimis intricatis. Spicæ plurimæ ascendentes filiformes. Flores minutissimi.

1. Microcœlia exilis.

Hab. in *Madagascar* supra arborum ramulos; *Forbes*. (*hab. s. sp. Soc. Hortic. benignè commun.*)

Sepala ovata, obtusa. Calcar ad os constrictum. Pollinia depressa, rotunda, versus medium foveâ magis pellucidâ, quasi reniformia apicibus approximatis.

For my specimens of this very curious little plant I am indebted to the Horticultural Society, who received it from Mr. Forbes. It has the smallest flowers of any Orchideous plant I know; it grows upon the young branches of trees covering them with its numerous thread like roots. It appears to be leafless.

I suspect that Angræcum aphyllum of Du Petit Thouars, t. 73. belongs to this genus.

XXXVI. EPICRANTHES.

Epicranthes. *Blume Bijdr.* 306. *tabellen* 9.

Sepala tria, patentia. Petala multifida, laciniis clavatis carnosis appendiciformibus (nulla ex *Blume*, qui petala processus columnæ appellat). Labellum sepalis brevius, integrum, margine revolutum, glanduloso-tumidum, articulatione irritabili cum columnæ ungue incurvo unita. Columna simplex. Anthera semibilocularis. Pollinia 2, ovata.—Herba epiphyta, caulibus scandentibus vaginatis pseudo-bulbiferis; pseudobulbis tetragonis monophyllis. Folia ovalia suprà convexa, subtùs concava. Pedunculi uniflori, e caule ad basin foliorum orti.

Char. ex *Blume*.

1. Epicranthes Javanica. *Blume l. c.*

Hab. in altis montibus *Javæ* supra arbores, florens Septembri et Decembri; Blume.

XXXVII. MONOMERIA.

Sepala ringentia, inæqualia, lateralibus a supremo valdè distantibus, intervallo denticulato, basi invicem et cum pede columnæ connatis intus barbatis. Petala 0. Labellum cum pede columnæ articulatum, incumbens, ovatum, trilobum, lamellis 4 parallelis in disco, lobis lateralibus antrorsùm falcatis apice bidentatis. Columna basi longè producta, semiteres, apice cornubus duobus minutis. Anthera cristata, unilocularis. Pollinia 4, in massam singulam cohærentia.—Herba rhizomate crasso repente, pseudo-bulbos gerente. Folia solitaria, coriacea, avenia. Racemi radicales multiflori.

Note. This is the only known genus of Orchideæ in which the petals are abortive. Nothing is found in their room, but there is a wide toothletted interval between the upper and lower sepals.

1. Monomeria barbata. *Lindley in Wallich. Cat. no.* 1978.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Angl. Ind.*)

Pseudo-bulbi ovati. Folia longissimè petiolata, pedalia, erecta. Racemus

foliis brevior. Scapus pallidus, squamulis quibusdam, maculatus. Flores pallidi, purpureo-maculati. Labellum lutescens. Pes columnæ densè purpureo punctata.

XXXVIII. STENOGLOSSUM.

Stenoglossum. *Kunth in Humb. et Bonpl. Nov. gen. et sp. pl.* 1.356.

Sepala clausa: lateralibus cum basi columnæ connatis, æquilateris. Petala minora. Labellum posticum, cum columna in urceolum connatum, limbo spatulato longè pedunculato. Anthera bilocularis. Pollinia 4, libera.—Herba epiphyta, caulescens. Caulis foliosus, simplex. Flores terminales, spicati, pedicellati, bracteati.

Character ex Kunth.

1. Stenoglossum coriophorum. *Kunth.*

Stenoglossum coriophorum. *Kunth l. c. t.* 87. *Synops.* 1.340.
Stenoglossum corynephorum. *Spreng. syst.* 3.742.

Hab. in Andibus Regni *Novo-Granatensis*, alt. 1080 hex. florens Novembri; Humboldt et Bonpland.

XXXIX. DIGLYPHOSA.

Diglyphosa. *Blume Bijdr.* 336. *tabellen* 60.

Sepala erecta, subringentia. Petala latiora. Labellum concavum, intus membranaceo-cristatum, ungui columnæ elasticè adhærens, ascendens; limbo indiviso patente. Columna supernè incurva. Anthera convexa, anticè bifida, bilocularis. Pollinia 2, angulata, compressa.—Herba terrestris ebulbis. Radices (Rhizoma) repentes, fibrosæ. Caulis teres, subcarnosus, apice monophyllus. Folium membranaceum, nervosum, elliptico-lanceolatum, glabrum. Pedunculus radicalis, basi vaginatus, spicato-multiflorus. Flores pedicellati, bracteati.

Character ex Blume.

1. Diglyphosa latifolia. *Blume l. c.*

Hab. in umbrosis montanis Meggamedong, insulæ *Javæ*, florens Aprili; Blume.

XL. MYCARANTHES.

Mycaranthes. *Blume Bijdr. p.* 352. *t.* 57.

Sepala clausa v. patentia, æqualia v. inæqualia, extùs lanata, lateralibus pedi columnæ adnatis sed nullo modo obliquis. Petala minora. Labellum cum basi producta columnæ articulatum, trilobum, cucullatum, disco cristato v. appendiculato. Columna nana, basi longè producta marginibus alatis introflexis. Anthera terminalis, bilocularis, loculis quadrilocellatis. Pollinia 8, parva, ovata.—Herbæ in arboribus, v. rupibus crescentes, caulescentes. Folia carnosa, v. coriacea, non plicata. Racemi terminales multiflori.

This genus differs from Eria in nothing but its dwarf column the margins of which are inflexed, and the want of obliquity in the lateral sepals; but as its habit is peculiar I do not hesitate to adopt it.

1. Mycaranthes oblitterata. *Blume.*

M. "labelli lobo medio oblitterato, foliis subcoriaceis." *Blume l. c.*

Hab. in sylvis montium Salak, Gede, &c. *Javæ,* florens Junio Septembri; Blume.

2. Mycaranthes latifolia. *Blume.*

M. "labelli lobo medio abbreviato eroso, sepalis exterioribus versus apicem incrassatis foliis lato-linearibus subcarnosis." *Blume l. c. t.* 57.

Hab. in sylvis obscurioribus montis Salak, *Javæ,* florens Julio Augusto; Blume.

3. Mycaranthes lobata. *Blume.*

M. "labelli lobo medio dilatato undulato sub-bilobo, foliis rigidis." *Bl. l. c.*

Hab. in montosis Salak, Pantjar, Seribu, &c. *Javæ,* florens per ferè totum annum; Blume.

4. Mycaranthes stricta. *Lindl. in Wall. Cat. no.* 1970.

M. caulibus teretibus, spicâ secundâ densâ multiflorâ, labello scrotiformi per medium calloso, perianthio lanato clauso, columnæ marginibus alatis introflexis, foliis 1-2 lineari-lanceolatis sessilibus.

Octomeria secunda. *Wallich. Mss.*
Eria stricta. *Lindl. Coll. t.* 41. *B.*

Hab. in *Napalia* supra arbores et rupes, *Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores extus glauci, intus pallidè ochroleuci.

XLI. PHREATIA.

Dendrolirii *pars.* *Blume.*

Sepala conniventia, subæqualia: lateralibus cum basi producta columnæ connatis. Petala minora conformia. Labellum integrum, carnosum, cum pede columnæ articulatum. Columna nana, clinandrio altè immerso: margine membranaceo subintegro. Anthera intra clinandrium inclusa, bilocularis; loculis obsoletè 4-foveatis. Pollinia 8, sphærica, materie viscidâ cohærentia.—Herbæ cæspitosæ, epiphytæ, pseudo-bulbosæ. Folia non plicata. Scapi radicales.

Obs. Character ad P. elegantem solam confectus; species Blumianæ ob habitum huc relatæ.

1. Phreatia elegans.

P. foliis linearibus coriaceis apice obliquis emarginatis, scapis gracilibus foliis longioribus subnutantibus, spicis multifloris, labello ovato obtuso intus piloso.

Hab. super arbores in sylvis montosis pagi Peradeniæ, *Zeylonæ*; *Macrae.* (*hab. s. sp. et ic. pict.*)

An Phr. laxiflora eadem?

Sepala conniventia acuta: lateralibus majoribus basi paululum v. vix obliquis; contextu valdè laxo cellulari. Petala conformia, paulò minora, acuta. Labellum indivisum, basi productæ columnæ affixum, ovatum, carnosum. Flores albi.

2. PHREATIA retusa.

P. " bulbis ovato-globosis 2-3-phyllis, foliis lineari-lanceolatis obliquè retusis subcarnosis, spicis brevibus densifloris." *Blume.*

Dendrolirium retusum. *Blume p.* 351.

Hab. in altis montis Salak, *Javæ,* florens Julio Septembri; Blume.

Planta pusilla.

3. PHREATIA laxiflora.

P. " foliis membranaceis linearibus apice inæquali-obtusis, spicis folio valdè longioribus strictis laxifloris, labelli limbo dilatato concavo." *Blume.*

Dendrolirium laxiflorum. *Blume p.* 350.

Hab. prope catarractas fluvii Tjapus ad montem Salak, *Javæ,* florens Septembri Octobri; Blume.

4. PHREATIA densiflora.

P. " foliis membranaceis lato-linearibus inæquali-obtusis, spicis elongatis flexuosis densifloris, labello limbo ovato concavo." *Blume.*

Dendrolirium densiflorum. *Blume p.* 350.

Hab. prope catarractas fluvii Tjapus ad montem Salak, *Javæ,* florens Augusto Novembri; Blume.

5. PHREATIA pusilla.

P. " foliis membranaceis angusto-linearibus, spicis erectiusculis folio æqualibus, labelli limbo rotundato patente." *Blume.*

Dendrolirium pusillum. *Blume p.* 350. *tab.* 68.

Hab. in montosis Pantjar Provinciæ Buitenzorg, *Javæ,* florens Junio Augusto; Blume.

6. PHREATIA secunda.

P. " foliis carnosis angusto-linearibus, spicis nutantibus secundis folio subæqualibus, labelli limbo rotundato patente." *Blume.*

Dendrolirium secundum. *Blume p.* 350.

Hab. in montosis Pantjar Provinciæ Buitenzorg, *Javæ,* florens Junio Augusto; Blume.

" Planta pusilla Dendrolirio pusillo affinis, sed characteribus indicatis sat diversa." *Bl.*

7. PHREATIA coriacea.

P. " foliis coriaceis linearibus obliquè retusis, spicis erectis folio longioribus laxifloris, labelli limbo intus pubente dilatato concavo." *Blume.*

Dendrolirium coriaceum. *Blume p.* 351.

Hab. in sylvis montis Salak, *Javæ,* florens Augusto; Blume.

Affinis P. laxifloræ.

XLII. ERIA.

Eria. *Lindl. in Bot. Reg.* 904.—Dendrolirium. *Blume Bijdr. p.* 343. *t.* 69.—Pinalia. *Lindl. orch. scel. n.* 71. *p.* 23. *c. ic.*

Sepala semipatentia, v. clausa, inæqualia, extùs lanata v. glabra, lateralibus basi valdè obliquis cum pede columnæ connatis calcar æmulantibus. Petala sepalo superiori æqualia v. minora. Labellum cum basi producta columnæ articulatum, trilobum, raró subintegrum, cucullatum, disco calloso, v. cristato. Columna basi longè producta. Anthera terminalis, bilocularis, loculis obsoletè 4-locellatis. Pollinia 8, nunc omninò libera, nunc materie elasticâ glandulam mentiente cohærentia.—Herbæ in arboribus crescentes; caulibus carnosis, vaginatis, cicatricibus foliorum notatis. Folia sæpiùs plicata. Racemi simplices, erecti, bracteis sæpiùs dilatatis. Flores nunc conspicui.

This genus is essentially distinct from Octomeria, in having the lateral sepals very oblique and connected with the elongated base of a short column, of which the foot is much longer than the column itself; and also in habit. Eria is a genuine genus of Dendrobieæ with the column incumbent upon the ovarium; Octomeria on the contrary must be considered, notwithstanding the slight elongation of the base of its column, to belong to the genera characterized by the column being continuous with the ovarium. In Octomeria the sepals are of equal size; in Eria the lateral sepals are much larger than the upper one.

1. Eria paniculata. *Lindl. l. c. no.* 1971.

E. foliis lineari-lanceolatis acuminatis subtùs glaucis, caulibus teretibus pendulis elongatis, racemis terminalibus aggregatis cylindraceis multifloris, sepalis lanatis ovatis obtusis petalisque minoribus guttatis, labello trilobo basi apiceque calloso: lobis guttatis: intermedio truncato. *Lindley in Wall. Plant. Asiat. Rar. vol.* 1. *p.* 32. *t.* 36.

Hab. in Pundua, *Indiæ Orientalis, Wallich.* (*v. s. sp. in herb. Anglo-Indico.*)

2. Eria flava. *Lindl. in Wall. Cat. no.* 1973.

E. foliis lanceolatis distichis basi dilatatis, caulibus ovalibus, sepalis densè lanatis ovatis, petalis minoribus glabris, labelli trilobi lobo medio recurvo crenulato apiculato, racemo erecto multifloro, bracteis ovato-lanceolatis ovarii longitudine.

Eria pubescens. *Lindl. in B. Reg.* 904.
Dendrobium pubescens. *Hook. Exot. Fl. t.* 124.
Octomeria flava. *Wall.*
Octomeria pubescens. *Spreng. syst.* 4. 310.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores viridi-flavescentes odorati, labello postico. Bracteæ membranaceæ fuscæ.

3. Eria bicolor.

E. foliis pluribus lanceolatis, caulibus elongatis attenuatis, sepalis petalisque æqualibus glabris ovatis patentibus, labelli trilobi lobo medio ovato acuto, racemo stricto multifloro foliis breviore, bracteis lanceolatis abbreviatis, rachi pubescente.

Hab. ad Maturatam, *Zeylonæ,* supra arbores, *Macrae.* (*hab. s. sp. et ic. pict.*)

Caulis vaginis fuscis densè vestitus. Rachis roseo-purpurea. Flores can-

didissimi. Pollinia non vidi. Labellum medio lineis tribus elevatis sed cristâ nullâ.

4. ERIA flavescens.

E. "bulbis oblongis subcylindraceis, apice 3-4-phyllis, foliis lanceolatis nervosis, spicis intrafoliaceis erectis stellato-pubentibus, bracteis coriaceis margine revolutis, labelli limbo intùs discoideo-viscoso: lobo medio ovato obtuso." *Blume.*

Dendrolirium flavescens. *Blume p.* 344. *t.* 69.

Hab. in cortice arborum ad montes Salak, Tjerimai, &c. *Javæ,* florens Maio Octobri; Blume.

"Bracteæ flavescentes."

Huic et 5 sequentibus Labellum ungue columnæ majus, intùs callosum v. crispatum, limbo subtrilobo. Bracteæ magnæ coloratæ. Flores speciosi rariùs minuti. *ex Blume.*

5. ERIA rugosa.

E. "bulbis oblongis triquetris apice 1-2-phyllis, foliis oblongo-lanceolatis nervosis, spicis erectis sepalisque exterioribus tenuiter fusco-tomentosis, bracteis membranaceis, labello intùs membranaceo-crispato, limbi lobo medio ovato acuto." *Blume.*

Dendrolirium rugosum. *Blume p.* 345.

Hab. in sylvis umbrosis montis Salak, *Javæ,* florens Septembri Octobri; Blume.

6. ERIA ornata.

E. "bulbis ovalibus compressiusculis sub-3-phyllis, foliis oblongo-lanceolatis rigidis nervosis, spicâ radicali vaginatâ sepalisque exterioribus fusco-tomentosis, bracteis coriaceis margine recurvis, labello intùs crispato-cristato, limbi lobo medio acuminato." *Blume.*

Dendrolirium ornatum. *Blume p.* 345.

Hab. in sylvis altioribus Provinciarum Buitenzorg et Bantam, *Javæ,* florens Januario Martio; Blume.

"Bracteæ rubræ, demum aurantiacæ. Species pulcherrima."

7. ERIA albido-tomentosa.

E. "bulbis ovalibus compressis sub-3-phyllis, foliis lanceolatis rigidis, spicâ subradicali sepalisque exterioribus albido-tomentosis, bracteis membranaceis, labello intùs crispato, limbi lobo medio acuto." *Blume.*

Dendrolirium albido-tomentosum. *Blume p.* 345.

Hab. ad arbores in vallibus Lowong Salassie Provinciæ Tjanjor, *Javæ,* florens Junio Julio; Blume.

8. ERIA Hyacinthöides.

E. "bulbis ovatis compressiusculis apice 2-phyllis, foliis lanceolatis basi carinatis coriaceis nervosis, spicis lateralibus erectis sepalisque nudis, bracteis minutis, labello intùs calloso verrucoso: limbi lobo medio obtuso." *Blume.*

Dendrolirium hyacinthoides. *Blume p.* 346.

Hab. ad arborum truncos in declivitate occidentali montis Salak, *Javæ,* florens Septembri; Blume.

"Flores candidi."

9. Eria bicristata.

E. "bulbis oblongis subcylindraceis vaginatis apice sub-2-phyllis, foliis lineari-lanceolatis coriaceis; spicâ laterali pauciflorâ sepalisque exteriobus tenuissimè sericeo-tomentosis, bracteis minutis, labello intùs lineis 2 longitudinalibus hirsutis: limbi lobo medio incrassato." *Blume.*

Dendrolirium bicristatum. *Blume p.* 346.

Hab. in umbrosis montis Salak ad arbores *Javæ,* florens Januario; Blume. "Flores albidi, ad basin labelli dilutè purpurei."

10. Eria rosea. *Lindley.*

E. foliis coriaceis oblongo-lanceolatis solitariis in pseudo-bulbis costatis ovatis, sepalis glabris carinatis petalisque oblongis obtusis, labelli trilobi ungue bicostato laminâ tricostatâ, spicâ axillari pauciflorâ, bracteis foliaceis floribus longioribus.

Eria rosea. *Lindley in B. Reg.* 978.
Octomeria rosea. *Spreng. syst.* 4.310.

Hab. in *China.* (*v. v. cult.*)

Surculi juniores e squamis magnis viridibus distichis mox ad margines emarcidis et pseudo-bulbum formantibus. Flores albo-rosei. Labelli cristæ luteo-aurantiacæ.

11. Eria stellata. *Lindley.*

E. foliis lanceolatis carnosis 5-costatis, sepalis pubescentibus petalisque lineari-lanceolatis acuminatis, labelli tricostati lobis lateralibus obtusis intermedio acuminato, scapo elongato radicali multifloro ovarioque pube ferrugineâ lanatis.

? Dendrobium javanicum. *Swartz in act. Holm.* 1800. *p.* 247. *Willd. n.* 23.
Eria stellata. *Lindl. in B. Reg. t.* 904.
Octomeria stellata. *Spreng. syst.* 4.310.

Hab. . . . . . . Colitur in Hortis Angliæ ex *Java,* ut aiunt. (*v. v. cult.*)

12. Eria alba.

E. foliis distichis basi vaginantibus plicatis, pseudo-bulbis ovatis cartilagineis multicostatis, sepalis petalisque oblongis subæqualibus glabriusculis, labelli trilobi medio tricallosi lobo intermedio ovato obtuso, racemis geminis terminalibus foliis æqualibus, bracteis subulatis.

Octomeria alba. *Wall.*

Hab. in monte Sheopore, *Napaliæ,* supra arbores crescens, *Wallich.* (*hab. s. sp. communic. cl. Rudge.*)

Flores albi mellis odorem spirantes. Labellum flavescens lobis lateralibus apice roseis; ex *Wallichio.*

13. Eria excavata. *Lindl. l. c. no.* 1974.

E. foliis lanceolatis binis plicatis, caulibus oblongis obtusis sulcatis, sepalis basi pilosis petalisque oblongis obtusis, labelli trilobi tricarinati lobo medio emarginato, racemis lateralibus erectis foliis brevioribus, bracteis obovatis recurvis ovario multò brevioribus.

Octomeria excavata. *Wall.*

Hab. rariùs supra arbores montis Sheopore, *Napaliæ, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Tota planta intensè viridi-cærulea. Rachis rosea pubescens. Bracteæ

pallidè virides, striatæ. Flores mediocres, (flavescentes, sepalis petalisque tenuissimè diaphanis, striis dilutissimis roseis notatis *ex Wallichio*). Labellum lobo medio olivaceo-purpureo. Columna teres stigmate altè excavato, labio superiore ovato, inferiore maximo porrecto 4-dentato.

14. Eria pumila. *Lindl. l. c. no.* 1972.

E. foliis geminis lineari-lanceolatis plicatis caulibus teretibus erectis subæqualibus, sepalis petalisque acuminatis basi subpilosis, labelli trilobi ecallosi lobis lateralibus subulatis patentibus: intermedio ovato, spicis capitatis lateralibus subsessilibus.

Hab. in Pundua, *Indiæ Orientalis, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Ovarium pubescens. Sepala inferiora basi valdè producta. Vaginæ caulium latæ membranaceæ.

15. Eria obesa. *Lindl. l. c. no.* 1976.

E. foliis . . . . . ., caulibus crassis teretibus, sepalis petalisque obtusis subglabris, labelli trilobi ecallosi lobis lateralibus rotundatis: intermedio cuneato retuso, racemis paucifloris, bracteis lineari-lanceolatis pedicello capsularum longissimarum vix æqualibus.

Hab. ad Attran *Martabaniæ, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Exemplaria quædam vidi foliis destituta facie E. excavatæ pumilæ sed excavationibus nullis. Pedunculi 3-4-flori, ovariis semimaturis valdè elongatis. Pollinia defuere. Species distincta, sed recognoscenda.

16. Eria erecta.

E. "bulbis cauliformibus supernè compressiusculis, foliis lanceolatis acutis, spicis laxifloris oppositifoliis erecto-patentibus." *Blume.*

Dendrolirium erectum. *Blume p.* 348.

Hab. in montanis Gede et Salak, *Javæ,* florens Martio Septembri; Blume.

"Flores mediocres, odorati. *Variat* caulibus hinc planis inde teretibus, spicis folio duplò brevioribus, in altioribus Salak." *Blume.*

Obs. Huic et speciebus tribus sequentibus labellum ungue columnæ majus, infernè processubus duobus inflexis instructum, pseudo-bulbi elongati, cylindracei, quasi cauliformes, infernè vaginati apice foliis instructi, spicæ oppositifoliæ, bracteæ minutæ, flores parvi; *ex Blume.*

17. Eria abbreviata.

E. "bulbis cauliformibus teretibus, foliis lanceolatis acutis lucidis, spicis oppositifoliis brevissimis." *Blume.*

Dendrolirium abbreviatum. *Blume p.* 348.

Hab. in altis montis Salak, *Javæ,* florens Junio; Blume.

18. Eria multiflora.

E. "bulbis cauliformibus teretibus, foliis lineari-lanceolatis acutis, spicis densifloris oppositifoliis nutantibus folio dimidio brevioribus." *Blume.*

Dendrolirium multiflorum. *Blume p.* 349.

Hab. in sylvis obscurioribus montis Salak, *Javæ,* florens Junio, &c. Blume.

19. Eria micrantha.

E. "bulbis cauliformibus teretibus, foliis lineari-lanceolatis obtusiusculis, spicis densifloris oppositifoliis cernuis folio æqualibus."

Dendrolirium micranthum. *Blume p.* 349.

Hab. in sylvis obscurioribus montis Salak, *Javæ*, florens Junio; Blume.

" An varietas E. multifloræ, differt tantum foliis et floribus valdè minoribus."—An Phreatia ?

20. Eria robusta.

E. " bulbis compressis vaginatis apice 2-phyllis, foliis lato-linearibus obtusiusculis rigidissimis, spicâ infernè vaginatâ tomentosâ longitudine foliorum." *Blume.*

Dendrolirium robustum. *Blume p.* 347.

Hab. in montanis Provinciarum Buitenzorg et Tjanjor supra arbores, *Javæ*, florens Junio Septembri; Blume.

" Flores flavescentes vel purpurascentes."

Huic et 3 sequentibus labellum ungue columnæ brevius, infernè cucullatum, limbo indiviso, bracteæ minutæ, flores parvi, sepala in omnibus ferè tomentosa, ex *Blume.*

21. Eria ebulbis.

E. " foliis geminatis linearibus obtusis rigidis basi ferè ebulbis, spicis tomentosis folio dimidio brevioribus." *Blume.*

Dendrolirium ebulbe. *Blume p.* 347.

Hab. ad montem Salak, *Javæ*, florens Junio, &c.; Blume.

" Flores internè purpurascentes."

22. Eria acuminata.

E. " bulbis oblongis compressis 5-7-phyllis, foliis lineari-lanceolatis acuminatissimis rigidis, spicâ subtomentosâ longitudine foliorum." *Blume.*

Dendrolirium acuminatum. *Blume p.* 347. *t.* 69.

Hab. in altis montium Gede et Salak ad originem fluviorum supra arbores, *Javæ*, florens Maio Julio; Blume.

" Flores intùs purpurei."

23. Eria sulcata.

E. " bulbis ovatis sulcatis sub-2-phyllis, foliis lineari-lanceolatis coriaceis, spicis erectis supernè sulcatis nudis folio longioribus." *Blume.*

Dendrolirium sulcatum. *Blume p.* 347.

Hab. in sylvis humidis ad montem Gede, *Javæ*, florens Maio Junio; Blume.

24. Eria appendiculata.

E. " bulbis ovato-oblongis vaginatis 3-4-phyllis, foliis lanceolatis coriaceis obtusis, spicâ arachnoideo-tomentosâ longitudine foliorum." *Blume.*

Dendrolirium appendiculatum. *Blume p.* 352. *t.* 69.

Hab. in arboribus et ad ripas montium Salak, Gede, Burangrang, &c. *Javæ*, florens Maio Septembri; Blume.

Generis valdè dubii. Fortè Vandea quædam.

§ Pinalia.

Stigma prominens. Columna teres, clavata. Anthera dorsalis. Pollinia apice materie viscidâ cohærentia.

I formerly thought that the characters by which the following species is distinguished were of sufficient importance to justify me in separating it from Eria as a particular genus, for which I accordingly adopted Dr. Hamilton's manuscript name of Pinalia. Subsequent experience has however led me to doubt the value of these characters unconnected with other differences, and I have accordingly reduced the genus to a subgenus of Eria. I may however observe that the degree of developement of the viscid matter by which the pollen masses cohere is greater in Pinalia than in any other Malaxideous plant with which I am acquainted, and that it exhibits an instance of a near approach to the cartilaginous gland of Vandeæ.

25. Eria convallarioides. *Lindl. l. c. no.* 1975.

E. foliis oblongo-lanceolatis distichis plicatis, caulibus compressis teretibus striatis, sepalis petalisque ovatis inæqualibus extùs villosis, labello unguiculato ovato apice tridentato, spicis axillaribus oblongis densissimis pedunculatis foliis multò brevioribus, bracteis subulatis.

Octomeria spicata. *Don. Prodr.* 31.
Pinalia. *Lindl. orch. scel. n.* 71. *p.* 23. *c. ic.*
Pinalia alba. *Hamilton Mss. apud Don. Prodr.*
Octomeria convallarioides. *Wallich in ic. Bibl. Anglo-Indicæ n.* 1141.

Hab. supra arbores *Napaliæ* ad Toka, et alibi, florens Julio, *Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores albi densissimi, magnitudine ferè Convallariæ majalis inodori; ex *Wallichio.* Labellum posticum. Capsulæ oblongæ, utrinque obtusæ, apteræ.

XLIII. APORUM.

Aporum. *Blume Bijdr. p.* 334. *t.* 39.

Sepala carnosa erecta, lateralibus majoribus obliquis cum basi producta columnæ connatis. Petala sepalo supremo minora. Labellum cum pede columnæ articulatum, posticum, indivisum v. trilobum: limbo cristato calloso v. nudo. Columna semiteres, basi longè producta. Anthera sessilis, bilocularis, nunc apice membranacea. Pollinia 4, per paria collateralia.—Herbæ epiphytæ, caulescentes. Folia disticha, equitantia, ancipitia. Flores subsolitarii, e paleis membranaceis erumpentes, sæpiùs herbacei coloris.

Different as the plants of this genus are from Dendrobium in appearance, it is impossible to distinguish them by characters derived from the fructification; the distichous equitant leaves however offer an excellent mark of distinction.

1. Aporum indivisum. *Blume.*

A. foliis ovatis carnosis obtusis, floribus solitariis terminalibus, sepalis carnosis: lateralibus ovatis obtusis patentibus supremo petalisque multò majoribus, labello postico oblongo cristato indiviso carnoso, caulibus erectis.

Aporum indivisum. *Blume Bijdr. p.* 334. *t.* 39. *Wall. Cat. no.* 2018.

Hab. in montibus Seribu, *Javæ*, florens Februario Julio; Blume; ad *Singapore, Wallich.* (*habeo s. sp. defloratum e Museo Anglo-Indico, et v. ic. pict.*)

Flores ex icone in Museo Anglo-Indico lutescentes extùs obscurè purpurei, quam A. ancipitis duplò majores.

2. Aporum incrassatum. *Blume.*

A. "labelli limbo rotundato incrassato revoluto." *Blume p.* 334.

Hab. ad montem Salak, *Javæ*, florens Octobri; Blume.

3. Aporum lobatum. *Blume.*

A. "labelli limbo semitrifido, lobo medio rotundato crenulato." *Blume Bijdr. p.* 334.

Hab. in montanis Provinciæ Buitenzorg, *Javæ*, florens toto anno; Blume.

4. Aporum anceps. *Lindl. l. c. no.* 2020.

A. foliis scalpelliformibus carnosis acutis, floribus solitariis geminisve, sepalis carnosis: lateralibus ovatis patentibus supremo petalisque multò majoribus, labello postico unguiculato ecalloso inappendiculato cuneato emarginato crenulato, caulibus pendulis.

Dendrobium anceps. *Swartz act. Holm.* 1800. *p.* 246. *Willd. no.* 18. *Bot. Reg. t.* 1239.

Hab. in *India Orientali* supra arbores præsertim ad æstuaria fluminum, *Wallich.* (*v. v. cult. et habeo s. sp. e Museo Anglo-Indico.*)

Flores virides, labello paululum colorato.

5. Aporum Serra. *Lindl. l. c. no.* 2021.

A. foliis scalpelliformibus acutis carnosis, floribus ....; caulibus basi tantum foliosis apice aphyllis teretibus subramosis floriferis.

? Dendrobium acinaciforme. *Roxb. Mss.*
? Herba supplex quinta. *Rumphius* 6. *t.* 51. *f.* 2.

Hab. ad *Singapore* et *Penang, Wallich.* (*habeo s. sp. defloratum e Museo Anglo-Indico.*)

Flores, quos non vidi, e paleis membranaceis imbricatis brevissimis erumpunt ad partem aphyllam caulis densè fasciculatis.

I suspect that the figure above quoted from Rumphius may possibly be intended for this. It is however too uncertain to be quoted with confidence. The leaves are much narrower than in A. Serra; and the flowers of the latter have not been seen by me.

XLIV. OXYSTOPHYLLUM.

Oxystophyllum. *Blume Bijdr. p.* 335. *t.* 38.

Sepala erecta, lateralibus majoribus obliquis cum basi producta columnæ connatis. Petala sepalo supremo subæqualia. Labellum cum pede columnæ articulatum, indivisum: limbo carnoso, subtùs tuberculato. Columna semiteres, basi longè producta, clinandrio marginato. Anthera denti dorsali columnæ insidens, bilocularis, convexa. Pollinia 2 non partibilia.—Herbæ epiphytæ, caulescentes. Folia equitantia, ensiformia, basi vaginata, rigida v. carnosa. Flores subcapitati, intra-foliacei, sessiles, paleis cincti.

Character ex icone et descriptione Blumii.

I know this genus chiefly by Blume's figure and description. It seems to differ from Aporum in nothing but having two pollen masses instead of four, and in the presence of a tubercle below the tip of the lip on the under side. I have not been able to satisfy myself upon the first point, in examining the flowers of Dr. Wallich's specimens of O. carnosum; but I presume Dr. Blume's observations, made upon fresh flowers are accurate as to this.

1. Oxystophyllum carnosum. *Blume.*

O. foliis lineari-lanceolatis acuminatis subfalcatis, racemis lateralibus paleis imbricatis distichis vaginatis, labello cuneato supra tomentoso: tuberculo apicis minuto, petalis erosis.

Herba supplex prima. *Rumphius* 6. *t.* 50. *f.* 2.
O. carnosum. *Blume l. c. t.* 38.
Aporum concinnum. *Lindl. in Wallich. Cat. Herb. Ind. no.* 2019.

Hab. in sylvis montium *Javæ*, florens Julio, &c. Blume; Amboyna, Rumph. *Wallich.* (*habeo s. sp. e Museo Anglo-Indico.*)

Flores parvi coriacei. Sepala in sicco acuta, in vivo obtusiora (ex Blumii icone). Herba erecta, cæspitosa, palmaris, caulibus simplicibus, ad basin usque foliosis.

I originally considered this a species of Aporum, not having been able to procure any flowers; the examination of one or two withered blossoms has since enabled me to ascertain that it is the Oxystophyllum carnosum of Blume. Rumphius's figure is characteristic.

2. Oxystophyllum rigidum. *Blume.*

O. "foliis strictis coriaceis, labelli tuberculo obtuso." *Blume p.* 336.

Hab. in sylvis montium Salak, Pantjar, &c. *Javæ*, florens toto anno; Blume.

3. Oxystophyllum excavatum. *Blume.*

O. "foliis rectis subcoriaceis, labelli limbo intùs excavato extùs convexo." *Blume l. c.*

Hab. in sylvis altioribus montis Salak, *Javæ*, florens Decembri; Blume.

XLV. POLYSTACHYA.

Polystachya. *Hooker Exot. Fl.* 103.

Sepala erecta, acuta: lateralibus majoribus cum basi producta columnæ connatis. Petala minora. Labellum sessile, cum basi producta columnæ articulatum, trilobum. Columna semiteres, brevis. Anthera bilocularis. Pollinia 4, collateralia, æqualia, per paria cohærentia.—Herbæ epiphytæ caulescentes nunc pseudo-bulbosæ. Folia leviter nervosa. Flores paniculati, parvi, alabastris trigonis.

When I published the type of this genus in my Collectanea Botanica, in 1821, I had seen only imperfect pollen masses; one lying in each cell of the anther. Subsequently Dr. Hooker, in founding the genus in his Exotic Flora, represented them adhering to a common pedicel and gland, 4 in number, and not lying side by side, but upon each other. Finally M. Achille Richard, in his account of the Mauritius Orchideous plants, states the number of pollen masses to be 2, without any stalk or gland. All these observations are however inaccurate, as I have recently satisfied myself

from an examination of good specimens sent from Ceylon by Mr. Macrae. The pollen masses are in reality 4 in number and lie loosely side by side, two in each cell of the anther.

1. Polystachya luteola. *Hooker.*

P. spicâ paniculatâ, foliis oblongo-lanceolatis multinerviis scapo brevioribus, floribus ovariisque glabris.

Epidendrum minutum. *Aubl.* 2.824.
Cranichis luteola. *Swartz Fl. Ind. Occ.* 3.1433.
Epidendrum parviflorum. *Pavon. in Herb. Lambert.*
Dendrobium polystachyon. *Swartz act. Holm.* 1800. *p.* 247. *Willd. no.* 21. *Thouars orch. Afr. t.* 85. *Lindl. Coll. Bot. t.* . *A. Rich. orch. Maur.* 59.
Polystachya luteola. *Hooker Exot. Fl. t.* 103. *Spreng. l. c.*
Polystachya Mauritiana. *Spreng. syst.* 3.742.

Hab. in *Mexico, Pavon*; insulis *Caribæis, Swartz*; *Mauritio,* Thouars; *Zeylona, Macrae.* (*habeo s. sp. et v. v. cult.*)

Variat floribus luteo-viridibus (*occidentalis*) et luteo-purpureis (*orientalis*).

2. Polystachya puberula. *Lindley.*

P. spicâ paniculatâ thyrsiformi, foliis lanceolatis septem-nerviis scapo longioribus, floribus ovariisque pubescentibus, pseudo-bulbis ovatis. *Lindley in Bot. Reg. t.* 851.

Hab. in *Sierra Leone.* (*v. v. cult.*)

3. Polystachya affinis.

P. spicâ simplici cylindraceâ, foliis ovalibus versus basin attenuatis 9-nerviis scapi longitudine, floribus ovariisque pilosis, pseudo-bulbis glabris depressis.

Hab. in *Sierra Leone.* (*habeo s. sp. ex Herb. Hort. Soc.*)

An P. puberulæ varietas?

4. Polystachya fusiformis. *Lindley.*

P. caulibus articulatis fusiformibus carnosis, foliis lineari-oblongis obliquè emarginatis, paniculis terminalibus foliis brevioribus, floribus glabris.

Dendrobium fusiforme. *Thouars orch. Afr. t.* 86.
Polystachya fusiformis. *Lindley in Bot. Reg. p.* 851.

Hab. in *Borbonia,* Thouars.

I refer this and the succeeding to Polystachya chiefly on account of their habit. It is however by no means clear to me what they really are. M. Du Petit Thouars figures 2 pollen masses, in this, and he, and M. Ach. Richard both find two in P. cultrata. There is also some peculiarity in the attachment of the pollen masses to the stigma which requires more investigation.

5. Polystachya cultrata. *Lindley.*

P. spicâ compositâ pauciflorâ, folio solitario basi auriculato oblongo cultriformi, floribus ovariisque glabris.

Dendrobium cultriforme; *Thouars orch. Afr. t.* 87. *Ach. Rich. orch. Maur.* 59.
Polystachya cultrata. *Lindley in Bot. Reg.* 851.

Hab. in *Mauritio,* Thouars.

Pollinia 2, ex Thouars et Ach. Rich.

XLVI. METACHILUM.

Sepala conniventia subæquilonga: lateralibus cum basi elongata columnæ connatis. Petala nana. Labellum ventricosum, integrum, cum margine pedis columnæ connatum, intùs appendiculatum. Columna stigmate prominente apice membranaceo bilobo. Anthera bilocularis, dorsalis. Pollen ignotum.—Herbæ epiphytæ, caulibus pendulis teretibus distichè foliosis. Flores parvi, laterales et terminales, spicati, capsulis reflexis.

A very remarkable genus nearly related to Dendrobium with which it agrees in habit, but from which the cohesion of the labellum with the margin of the column sufficiently distinguishes it. Its pollen is unknown.

1. Metachilum cyathiferum. *Lindl. in Wall. Cat. no.* 2022.

Hab. ad *Singapore, Wallich. (hab. s. sp. e Museo Anglo-Indico.)*

Caules penduli. Folia lineari-oblonga, apice obliquè emarginata, disticha; vaginæ laxæ. Sepala lateralia carinata. Appendix disci labelli cyathiformis.

XLVII. DENDROBIUM.

Dendrobium. *Swartz nov. act. Ups.* 6. *p.* 82. *t.* 5. *f.* 5. *Brown Prodr.* 1. 332.—Onychium. *Blume Bijdr. p.* 323. *t.* 10.—Pedilonum. *Ib. p.* 320. *t.* 36.—Sarcostoma. *Ib. p.* 339. *t.* 45.—Desmotrichum. *Ib. p.* 329. *t.* 35.—Grastidium. *Ib. p.* 333.—Ceraia. *Loureiro Fl. Cochinch. p.* 518.

Sepala membranacea, erecta v. patentia, lateralibus majoribus obliquis cum basi producta columnæ connatis. Petala sepalo supremo sæpiùs majora, nunc minora, semper membranacea. Labellum cum pede columnæ articulatum v. connatum, semper sessile, indivisum v. trilobum, sæpiùs membranaceum, nunc appendiculatum. Columna semiteres, basi longè producta. Anthera bilocularis. Pollinia 4, per paria collateralia.—Herbæ epiphytæ, nunc caulescentes, nunc rhizomate repente pseudobulbifero. Folia plana, sæpiùs venosa. Flores solitarii fasciculati, v. racemosi, speciosi.

The most genuine form of Dendrobium is no doubt that of having caulescent stems with fascicles or racemes of membranous coloured flowers; but there are insensible gradations from this into rhizomata having false-bulbs, and there are also species in which the flowers are by no means conspicuous and rather fleshy. From Bolbophyllum it is distinguished readily by its lip being always sessile, never unguiculate as in that genus, and also in the texture of the same part being almost always of nearly the same consistence as the sepals, while in Bolbophyllum it is always remarkably fleshy.

It appears to me that Blume's genera which I have here reduced to Dendrobium, have no characters to distinguish them; unless Sarcostema be kept apart on account of a slight peculiarity in its pollen masses the nature of which however I do not well understand.

§ I. *Rhizoma pseudo-bulbos gerens apice foliosos. Bolbophyllis proxima.*

1. Dendrobium amplum. *Lindl. in Wall. Cat. no.* 2001.

D. rhizomate repente squamoso pseudo-bulbos ovatos squamosos diphyllos gerente, foliis ovato-oblongis emarginatis petiolatis, floribus solitariis longipedunculatis axillaribus e bracteis duabus oblongis petaloideis pro-

venientibus, sepalis ovatis acuminatis obtusis petalis angustioribus, labello sessili trilobo medio lamellato : lobis lateralibus abbreviatis rotundatis, intermedio ovato crenulato acuto.

Hab. in *Pundua* et *Napalia, Wallich.* (*hab. s. sp. defloratum e Museo Anglo-Indico, et v. ic. pict.*)

Flores straminei, intùs guttati, expansi 3 uncias lati : labellum cum basi dilatata columnæ articulatum, lamellis tribus in medio, quarum intermedia abbreviata ; lobo intermedio atropurpureo. Ovarium ferè tres uncias longum, bracteâ ad basin solitariâ ovatâ. Pedunculus vix unciam excedens bracteis 2 magnis foliaceis albis ex basi ortis tectus.

This beautiful species approaches nearer to the genus Bolbophyllum than any with which I am acquainted. Its flowers are not exactly those of Dendrobium, the labellum being shaped differently from what is usual in that genus. It is however comprehended within the definition I have given of it, and will by no means enter Bolbophyllum with which it is its habit chiefly that accords.

2. Dendrobium muscicola. *Lindl. l. c. no.* 2017.

D. pseudo-bulbis rotundis cæspitosis induviatis, foliis binis petiolatis lineari-lanceolatis v. sessilibus ovatis apice subemarginatis uncinatis, racemis terminalibus erectis 3-4-floris foliis longioribus, bracteis cuspidatis florum longitudine, sepalis petalisque æqualibus membranaceis linearibus acuminatis conniventibus, labello lanceolato obtuso integerrimo.

? Dendrobium demissum. *Don Prodr.* 34.

Hab. in *Napalia, Wallich.* (*hab. s. sp. comm. cel. A. B. Lambert.*)

Planta pusilla 3 uncias vix excedens. Pseudo-bulbi parvi, rhizomate inconspicuo. Folia primordialia ovata subsessilia ; terminalia persistentia lineari-lanceolata petiolata. Bracteæ oblongæ cuspidatæ membranaceo marginatæ. Labellum sessile.

3. Dendrobium Macræi.

D. caulibus flexuosis moniliformibus pendulis pseudo-bulbos turbinatos monophyllos gerentibus, foliis oblongis obtusis sessilibus, floribus 2-3 axillaribus fasciculatis subsessilibus, sepalis petalisque subæqualibus ovatis acutis, labello trilobo : lobo medio crenato plicato marginibus recurvis.

Hab. in *Zeylona* supra arbores in sylvis agri Peradeniæ, florens Augusto, *Macrae.* (*hab. s. sp. defloratum, et v. ic. pict.*)

Caules longi articulis brevibus Sertulariæ ad instar. Pseudo-bulbi lutei teretes apice virides, fusco-striati. Flores albi, versus unguem labelli paululum lutescentes.

This curious species has the habit of the next division, but is covered with clavate spurious bulbs, from the apex of which springs a solitary oblong leaf, producing from its axilla 2 or 3 snow-white flowers. I only know the latter from Mr. Macrae's drawings.

4. Dendrobium braccatum.

D. pseudo-bulbis sphæricis cæspitosis depressis diphyllis, foliis ovatis submembranaceis, floribus solitariis foliis brevioribus, bracteâ magnâ petaloideâ ovato-subrotundâ ad basin ovarii brevissimi, sepalis petalis labelloque ovalibus obtusis subæqualibus.

Hab. in *Zeylona* supra saxa cæspites densos formans, florens Novembri, *Macrae.* (*hab. s. sp. et v. ic. pict. alabastra tantum juniora examinavi.*)

Herba pusilla 2-3-uncialis. Pseudo-bulbi fuliginosi lineis ab apice ad basin radiantibus notati, ovato-subrotundi, depressi. Flores albi. Bractea sanguineo-lineata. Labellum basi luteum lineis tribus sanguineis. Sepala lateralia basi lutea venâ unicâ sanguineâ.

A beautiful little species, of which my description is chiefly taken from a drawing communicated by Mr. Macrae; the specimens I received from him having been unfortunately in young bud only. The great petaloid bractea at the base of the very short ovarium characterizes the species distinctly.

5. DENDROBIUM angulatum.

D. "bulbis (monophyllis) angulatis, foliis ovali-lanceolatis subemarginatis, floribus subsolitariis, labelli limbo dilatato setaceo-multifido." *Blume p.* 329. *t.* 35. sub Desmotricho.

Hab. in sylvis altioribus montis Salak, *Javæ*, florens Augusto Octobri; Blume.

6. DENDROBIUM fimbriatum.

D. "bulbis (monophyllis) ovali-oblongis compressis, foliis oblongo-lanceolatis obtusiusculis, floribus subsolitariis, labelli limbo dilatato bifido plicato." *Blume p.* 329. sub Desmotricho.

Hab. in sylvis humilioribus provinciarum occidentalium *Javæ*, florens Junio Septembri; Blume.

Variat in sylvis Nusæ Kambangæ insulæ foliis latioribus, florens Novembri; *Blume.*

7. DENDROBIUM comatum.

D. "bulbis (monophyllis) oblongis compressiusculis, foliis oblongo-lanceolatis emarginatis, floribus fasciculatis, labelli limbo comato." *Blume p.* 330. sub Desmotricho.

Hab. in montanis circa Buitenzorg, *Javæ*, florens Septembri; Blume.

8. DENDROBIUM appendiculatum.

D. "bulbis (monophyllis) linearibus compressis, foliis oblongo-lanceolatis obtusiusculis, floribus fasciculatis, labelli limbo crispato appendiculo bifido instructo." *Blume p.* 330. sub Desmotricho.

Hab. ad montem Pantjar, *Javæ*, florens Junio Augusto; Blume.

9. DENDROBIUM angustifolium.

D. "bulbis (monophyllis) oblongis pedicellatis, foliis lineari-lanceolatis retusis, floribus solitariis, labello intùs discoïdeo-lineato, limbi lobo medio bifido." *Blume p.* 330. sub Desmotricho.

Hab. in sylvis montis Salak, *Javæ*, florens Augusto; Blume.

Flores flavi. *Bl.*

10. DENDROBIUM convexum.

D. "bulbis (monophyllis) ovalibus, foliis ovali-lanceolatis emarginatis suprà convexis infrà concavis floribus solitariis, limbi lobo medio bifido." *Blume p.* 331. sub Desmotricho.

Hab. in arbores ad pedem montis Salak, *Javæ*, florens Januario; Blume.

11. Dendrobium grandiflorum.

D. "bulbis (monophyllis) ovalibus, foliis ovalibus emarginatis planis, floribus solitariis, labello intùs 3-cristato, limbi lobo medio bilobo undulato." *Blume p.* 331. sub Desmotricho.

Hab. ad montem Salak prope Passir, *Javæ,* florens Julio Augusto; Blume.

12. Dendrobium pusillum.

D. "bulbis (diphyllis) pedicellatis oblongis, foliis ovali-lanceolatis obliquè retusis, floribus solitariis, labelli limbo undulato." *Blume p.* 331. *t.* 35. sub Desmotricho.

Hab. ad littora Nusæ Kambangæ insulæ *Javæ,* florens Octobri Novembri; Blume.

13. Dendrobium triflorum.

D. "bulbis (diphyllis) ovatis compressis senioribus tetragonis, foliis ovali-lanceolatis obliquè retusis, racemo subtrifloro, labelli limbo ovato." *Blume p.* 331. sub Desmotricho.

Hab. in sylvis Salak, *Javæ,* florens Junio; Blume.

14. Dendrobium Cymbidioïdes.

D. "bulbis (diphyllis) ovato-globosis pentagonis sub-2-phyllis, foliis lanceolatis retusis, racemo 3-7-floro, labello intùs abruptè calloso-lineato, limbi lobo medio ovato-tumido." *Blume p.* 332. sub Desmotricho.

Hab. in sylvis altioribus montium Gede et Salak, *Javæ,* florens Aprili Augusto; Blume.

"Sepala lineari-oblonga, obtusa, patentia, pallidè flavescentia; labellum supernè utrinque lineis purpurascentibus et maculâ sulphureâ notatum. *Variat* bulbis confertis et remotis, ut etiam longitudine foliorum." *Blume.*

15. Dendrobium elongatum.

D. "bulbis (diphyllis) oblongis quadrangularibus 2-phyllis, foliis lanceolatis retusis, racemo elongato multifloro, labello intùs membranaceo-lineato, limbi lobis obtusis." *Blume p.* 332. sub Desmotricho.

Hab. in sylvis altioribus montium Gede et Salak, *Javæ,* florens Julio Augusto; Blume.

"Sepala lineari-acuminata, erecto-patentia, flavescentia; labelli limbus semi-trilobus." *Blume.*

16. Dendrobium geminatum.

D. "bulbis (diphyllis) oblongis compressis subtetragonis 2-phyllis, foliis lanceolatis retusis, racemis subgeminatis paucifloris, labello intùs lineolato, limbi lobo medio ovato acuto." *Blume p.* 332. sub Desmotricho.

Hab. in sylvis altioribus montium Gede et Salak, *Javæ,* florens Augusto; Blume.

"Sepala acuminata, flavescentia; labellum versus basin purpurascens, limbo sulphureo." *Bl.*

§ II. *Caules undique foliosi, cylindracei, sæpe penduli.*

17. Dendrobium aureum.

D. caulibus teretibus pendulis, internodiis abbreviatis, foliis lineari-oblongis apice obliquis emarginatis, floribus geminatis, sepalis ovatis

obtusis, petalis undulatis obtusis sepalis majoribus, labello cucullato: limbo ovato obtuso undulato integerrimo intùs pubescente.

Hab. in *Zeylona,* supra arbores, in montem Nuera Ellia, florens Januario, *Macrae. (hab. s. sp. et ic. pict.)*

Flores magni, aurei, ex Macrae odoratissimi. Labellum disco aurantiaco.

18. Dendrobium biflorum. *Swartz.*

D. caule tereti simplici, foliis lineari-lanceolatis acuminatis planis, pedunculis bifloris lateralibus e paleis erumpentibus, labello trifido acuminato.

Epidendrum biflorum. *Forst.! Prodr. n.* 318.
Dendrobium biflorum. *Swartz. act. Holm.* 1800. *p.* 246. *Willd. no.* 17.

Hab. in *Societatis* insulis, *Forster; Nav. Cook. (v. iconem Forsterianam in Bibliotheca Banksiana, et s. sp. sine floribus in Herb. Banksiano.)*

Obs. Flores e paleis corneis ex internodiis provenientibus erumpunt.

19. Dendrobium macrostachyum.

D. caulibus teretibus pendulis flagelliformibus, foliis ovato-lanceolatis submembranaceis, floribus ternatis racemum spurium formantibus, sepalis ovatis acutis, petalis lanceolatis sepalo supremo subæqualibus, labello cucullato venoso: limbo ovato obtuso ciliato intùs pubescente.

Hab. supra arbores *Zeylonæ,* florens Julio, *Macrae. (hab. s. sp. et ic. pict.)*

Flores virescentes quam D. cucullati multò minores. Sepala et petala apice violacea. Labellum apice viride, venis roseis pulcherrimè pictum.

From a dried specimen of this species communicated to me by Mr. Macrae I picked a small living shoot, which has since sprouted forth in the Garden of the Horticultural Society where it is now growing.

20. Dendrobium heterocarpum. *Wall.*

D. caulibus teretibus pendulis, foliis oblongis acutis planis, floribus geminatis odoratis racemum spurium formantibus, sepalis lineari-oblongis acutis, petalis ovatis acutis sepalo supremo majoribus, labello unguiculato, limbo subpanduriformi holosericeo medio elongato acuminato plano.

Hab. in *Napalia, Wallich. (v. ic. pict. in Museo Anglo-Indico.)*

Flores dilutissimè flavescentes, fragrantissimi (ex cl. Wallich). Labellum luteum intùs rubro obscuro pictum. Capsulæ ex Wallich carnosæ, incrassatæ, subclavatæ, angulis crassissimis bilobis.

Very near D. cucullatum from which it is distinguished by its pale yellow fragrant flowers, and the form of the labellum.

21. Dendrobium amœnum. *Wall.*

D. caulibus pendulis gracilibus nebulosis floriferis aphyllis, foliis lanceolatis acutis, floribus geminatis racemum spurium formantibus longè pedunculatis divaricatis, sepalis oblongis obtusis, petalis obtusis sepalo supremo paulò majoribus, labelli cucullati limbo ovato obtuso crenulato leviter ciliato: disco villoso.

? Dendrobium aphyllum. *Roxb. Mss.*

Hab. supra arbores in *Napalia,* florens Aprili Maio, *Wallich. (v. ic. pict. in Museo Anglo-Indico.)*

Planta florifera omninò aphylla, caulibus gracilibus nebulosis dignoscenda. Flores albi maculâ parvâ violaceâ ad apicem cujusvis segmenti. Labellum intùs versus basin viridi-luteum.

This lovely species is abundantly distinguished by its slender stems, leafless, and clouded with dusky brown when in blossom; and also by its delicate white flowers, the tips of whose segments are remarkably blunt and tinged with delicate violet.

Dr. Wallich remarks in his Mss. that its fragrance is exquisite, not unlike that of Olea fragrans.

22. Dendrobium Pierardi. *Roxb.*

D. caulibus pendulis glabris, foliis ovato-lanceolatis acutis, floribus geminatis racemum spurium formantibus, sepalis acuminatis membranaceis, petalis sepalo supremo majoribus acuminatis, labello cucullato dilatato subtruncato pubescente ciliato.

Dendrobium cucullatum. *R. Brown in Bot. Reg. t.* 548.
Dendrobium Pierardi. *Roxb.! Hort. Beng. Hooker Exotic Flora t.* 9. *Wall. Cat. no.* 2007.

Hab. in *India Orientali* calidiore, præsertìm circa Chittagong et ad ostia Gangis, sæpiùs Mangiferæ adnascens, *Roxb. Mss.* (*hab. s. e Museo Anglo-Indico, et v. v. cult.*)

Flores diaphani, dilutè rosei, inodori. Labellum luteum, basi rubens, callo transverso supra unguem, lateribus purpureo-venosis.

The flowers vary in size according to the health of the individual; they also are occasionally seen with the sepals and petals more acuminate than usual. A variety with stems spotted with purple is known in our hot houses.

There can be no doubt that the plant figured in the Exotic Flora as D. Pierardi, that cultivated in the Botanic Garden at Calcutta under the same name, and the D. cucullatum of the Botanical Register, are all one and the same species. The latter exhibits D. Pierardi in the state in which it commonly appears in our stoves; but whether the flowers appear from among the leaves, or occupy the old leafless stems, depends not upon any specific difference, but upon the state of health of particular individuals.

Dr. Roxburgh says that the leaves of his D. Pierardi are emarginate and the flowers yellow. It is not impossible that he has confounded D. Pierardi, D. transparens and D. heterocapum, all which, although slightly different, are undoubtedly distinct.

23. Dendrobium transparens. *Wallich. Cat. no.* 2008.

D. caulibus pendulis teretibus, foliis ovato-lanceolatis acuminatis apice obliquis, floribus geminatis, sepalis acuminatis, petalis obtusis sepalo supremo majoribus, labello oblongo undulato ciliolato obtuso intùs levissimè pubescente.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores dilutè rosei, labello concolore.

Very like D. Pierardi, from which it is distinguished by its leaves being longer and emarginate at the apex, by the petals being obtuse and the labellum much less hairy, and pink not yellow. The stems are also far shorter.

24. Dendrobium nobile.

D. caulibus teretibus pendulis, foliis oblongis obliquè emarginatis obtusis, floribus geminatis, sepalis ovalibus, petalis conformibus majoribus, labello subrotundo cucullato cordato.

Hab. in *China, Reeves.* (*v. ic. pict. sinens. in Bibl. Hort. Soc.*)

Flores maximi, speciosissimi, carnosi, albi, ad basin extùs virescentes, apice purpurei. Labellum apice purpureum, basi intensè sanguineum. Anthera purpurea.

25. Dendrobium chrysanthum. *Wall. Cat. no.* 2012.

D. caulibus teretibus pendulis, foliis contortis ovato-lanceolatis acuminatis, floribus ternatis inter folia nascentibus, sepalis carnosis oblongis obtusis: venis extùs tuberculatis, petalis obovatis retusis carnosis sepalo supremo latioribus, labello cucullato denticulato retuso obsoletè trilobo.

Dendrobium chrysanthum. *Bot. Reg.* 1299.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. v. cult.*)

Flores intensè lutei carnosi, extùs tuberculis crebris muniti; petala tamen minus tuberculata. Labellum intùs maculâ atrosanguineâ.

26. Dendrobium longicornu. *Lindl. in Wall. Cat. no.* 1997.

D. caulibus erectis hispidis flexuosis, foliis ovato-lanceolatis apice valdè obliquis, floribus fasciculatis v. solitariis terminalibus, bracteis ovatis acuminatis hispidis pedicello multò brevioribus, sepalis lateralibus in calcare longo acuminato connatis, petalis sepalo supremo conformibus, labello infundibulari cucullato integro dentato basi cum pede columnæ accreto. *Lindley in Bot. Reg. fol.* 1315.

Hab. in *Sylhet* et *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. v. cult.*)

Caules erecti, pedales sesquipedalesve. Flores albi, 1½ unciam, ab apice columnæ ad apicem sepali supremi, longi. Labellum luteum extùs album, intùs lineâ axili venisque multis croceis. Columna brevis, semiteres, basi longissimè producta; clinandrium dente postico acuto, lateribus elevatis dentatis. Anthera subrotunda, anticè lanuginosa.

This remarkable species would be referable to Dr. Blume's Pedilonum if that genus were adopted. It has flowered in the Garden of the Horticultural Society, where I examined it. The structure of its stigma is highly curious, and unlike that of any other Orchideous plant with which I am acquainted. That part which Richard calls the rostellum, and through which impregnation takes effect is a two-lipped process, the lower lip of which is thick and abruptly truncate, the upper thinner, very irritable, inflected when the pollen is humid, but curving back with considerable elasticity if afterwards touched. The whole of the orifice of the stigmatic canal is choked up with a thick mucus.

I am not sure that this remarkable œconomy is not sufficient to constitute a particular genus; but I am unwilling to make use of it, especially as it is an obscure character, unless it shall be found that a similar structure exists in other species which can be combined with it.

27. Dendrobium Sarcostoma.

D. foliis linearibus subcarnosis basi vaginantibus, floribus terminalibus subsolitariis.

Sarcostoma javanica. *Blume p.* 340. *t.* 45.

Hab. in sylvis opacis montis Salak, *Javæ*, florens Julio Septembri; Blume.

"Herba parasitica, pusilla, subcaulescens. Folia pauca linearia, basi vaginantia, subcarnosa. Flores è paleis erumpentes, terminales, subso-

litaria. Labellum unguiculatum, supernè latius, concavum, gynostemio incumbens; limbus subtrilobus, lobo medio carnoso. Gynostemium (columna) supernè incrassatum, anticè ad apicem rostello brevi instructum. Anthera cristata, bilocularis. Massæ pollinis 4, obovatæ, per paria elasticè cohærentes. *Blume.*

28. Dendrobium gemellum.

D. "foliis membranaceis lanceolatis acuminatis, pedunculis oppositifoliis subbifloris, limbo labelli acuminato." *Blume.*

Pedilonum biflorum. *Blume p.* 322.

Hab. locis humidis umbrosis montis Salak, *Javæ*, florens Maio; Blume.

Floris emarcidi fabricam accuratè explorare non potuit indefessus Blume.

29. Dendrobium secundum. *Wallich. Cat. no.* 1996.

D. caulibus pendulis, foliis oblongis apice obliquè retusis, racemis lateralibus terminalibusque secundis, sepalis ovatis: lateralibus basi in cornu longum obtusum incurvum connatis, petalis supremo paulò minoribus, labello integerrimo acuto apice tumido. *Lindl. in Bot. Reg. t.* 1291.

Pedilonum secundum. *Blume p.* 322.

Hab. in *Freti Malaccensis* insula, *Wallich*; circa Tjikao in montosis *Javæ*, florens Junio Julio, Blume; etiam in *Sumatra*. (*v. v. cult. e Sumatra allatum: hab. s. sp. e Museo Anglo-Indico; et v. ic. pict. Wallichian.*)

Flores amœni purpurei, Fumariæ cujusdam facie, concolores, labelli apice aurantiaco. Pollen purpureum!

30. Dendrobium formosum. *Roxb.*

D. caulibus teretibus pendulis pilosis, foliis distichis ovatis apice obliquè emarginatis obtusis, racemo brevi terminali 4-5-floro, bracteis brevibus ovatis, (floribus maximis), sepalis oblongis acutis: lateralibus basi longè productis, petalis duplò latioribus acutis, labello obovato dilatato retuso cum basi columnæ in calcar obtusum connato. *Lindley in Wall. Pl. As. Rar. no.* 39.

Dendrobium formosum. *Roxb. Mss. Wall. Cat. no.* 1998.

Hab. in *Silhet, Napalia,* et *Martabania, Wallich.* (*hab. s. sp. e Museo Anglo-Ind.*)

31. Dendrobium polyanthum. *Wall. Cat. no.* 2009.

D. caulibus teretibus pendulis, foliis oblongo-lanceolatis apice integris, racemis 3-4-floris lateralibus foliis brevioribus, sepalis lanceolatis: lateralibus supremo subæqualibus, petalis majoribus oblongis undulatis obtusis, labello obovato cucullato ciliato, capsulis fusiformibus.

Hab. in *Moolmayne, Indiæ Orientalis, Wallich.* (*habeo s. sp. e Museo Anglo-Indico floribus delapsis.*)

Capsulæ teretes, angulis nullis, floribus non coronatæ.

32. Dendrobium bifarium. *Wall. Cat. no.* 2002.

D. caulibus teretibus pendulis, foliis bifariis oblongis sessilibus nitidis apice bilobis obliquis, racemis subterminalibus brevibus multifloris, bracteis ovatis reflexis ....

Angræcum purpureum primum. *Rumphius* 6. *t.* 49. *f.* 2.

Hab. in *Penang, Wallich.* (*hab. s. sp. defloratum e Museo Anglo-Indico.*)

Flores non vidi. Capsulæ ovales 6-costatæ, pisi magnitudine.

The habit of this species is so peculiar that it is not likely to be confounded with any other species. Its flowers have not been seen. The leaves of my dried specimens are glossy and beautifully marked with the longitudinal and transverse veins. The stems are as much as two feet long, while the leaves are only 1¾ inch long and ¼ inch broad.

33. Dendrobium vestitum. *Wall. Cat. no.* 2005.

D. caulibus pendulis villis deciduis densè vestitis, foliis coriaceis lanceolatis apice obliquis obtusis integris suprà sparsè subtùs densissimè villosis, racemis elongatis multifloris flexuosis bracteis ovatis coriaceis persistentibus floribus capsulisque villosis, sepalis lateralibus in cornu obtuso porrecto connatis, petalis sepalo superiore minoribus.

Hab. ad *Singapore, Wallich.* (*habeo s. sp. defloratum e Museo Anglo-Indico.*)

Species valdè singularis, superficie villosissimâ ab omnibus distincta. Florum ad apicem capsularum vestigia emarcida mutila tantum vidi. Folia adulta 6 uncias longa.

34. Dendrobium ramosum. *Lindl. l. c. no.* 2003.

D. caulibus pendulis gracilibus ramosis glabris, foliis lanceolatis acuminatis apice integerrimis, floribus subracemosis, bracteis membranaceis reflexis obtusis, sepalis lateralibus magnis in cornu elongatum rectum connatis, petalis minoribus, labello cucullato acuto crispo.

Hab. in montibus *Pundua, Wallich.* (*habeo s. sp. e Museo Anglo-Indico.*)

Flores malè conservatos et mutilos tantum vidi. Species D. Pierardi affinis, distincta tamen habitu ramoso magis gracili, floribusque subracemosis nec geminis ternisve. Formam labelli et petalorum haud licuit detegere.

35. Dendrobium pulchellum. *Roxb.*

D. caulibus teretibus pendulis, foliis oblongo-lanceolatis subplicatis, racemis lateralibus strictis multifloris, bracteis brevibus ovatis obtusis, sepalis ovatis acuminatis subcostatis, petalis oblongis obtusis tenuioribus et latioribus, labello unguiculato cochleariformi obtusissimo ciliato petalis breviore.

Dendrobium pulchellum. *Roxb. Mss.*

Hab. supra arbores et saxa in sylvis *Sylhet,* florens Maio Junio, *Roxb. Mss.* (*v. ic. pict.*)

Sepala albida. Petala rosea. Labellum lutescens maculâ basi rubro-aurantiacâ.

36. Dendrobium moschatum. *Wall.*

D. caulibus teretibus pendulis, foliis ...., racemis lateralibus laxis 6-floris, bracteis brevibus oblongis obtusis, sepalis oblongis obtusis patentissimis petalisque oblongis retusis latioribus obsoletè tessellatis, labello unguiculato cochleariformi obtusissimo extùs villoso.

Dendrobium moschatum. *Wall. Mss. Don Prodr.* 34.
Epidendrum moschatum. *Hamilt. apud Symes. Emb.* 3. 315. *c. ic.*

Hab. in *Pegu, Wallich.* (*v. ic. pict. in Mus. Anglo-Indico.*)

Flores speciosissimi diametro 2½-3 unciarum, amœnè sed pallidè aurantiaci. Labellum extùs ejusdem coloris, intùs luteum basin versus utrinque maculis duabus amplis coccineis, venis quinque cristato-fimbriatis.

This superb species flowers without its leaves in the Botanic Garden at Calcutta, in May. The blossoms exhale a faint smell resembling that of Rhubarb, as I learn from Dr. Wallich's Mss.

37. † Dendrobium Calceolaria. *Hooker.*

D. caulibus teretibus pendulis, foliis linearibus obtusis, racemis lateralibus laxis 5-floris, sepalis patentissimis petalisque oblongis obtusis latioribus venosis reticulatis, labello unguiculato cochleariformi obtusissimo margine abruptè inflexo pubescente.

Dendrobium Calceolaria. *Hooker. Ex. Fl.* 184.

Hab. in *India Orientali,* Hooker.

Flores rosei, magnitudine D. moschati, versus columnam flavescentes. Labellum lutescens, intùs maculis duabus amplis coccineis (venis nullis fimbriatis ex Hookero) ungue luteo. Columna et anthera atropurpureæ, anticè luteæ.

This species approaches very nearly to Dendrobium moschatum, with which however Dr. Hooker does not contrast it. It appears to differ in the characters I have pointed out, especially in the absence of the 5 crested veins that are found in the inside of the lip of D. moschatum, which Dr. Hooker would no doubt have both figured and described had they existed in his D. Calceolaria.

Upon referring to Dr. Wallich's Mss. I find that his Dendrobium Calceolus is the same as D. moschatum, and that he described it from Dr. Carey's Garden. It is therefore strongly to be suspected that this and D. moschatum are both the same.

38. Dendrobium fimbriatum. *Wall. Mss.*

D. caulibus teretibus pendulis, foliis ovato-lanceolatis, racemis lateralibus multifloris, sepalis oblongis undulatis patentissimis, petalis majoribus undulatis ciliatis, labello indiviso cucullato rotundato fimbriato, fimbriis laceris.

Dendrobium fimbriatum. *Hooker. Exot. Fl.* 71. *Wall. Cat. no.* 2011.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores intensè aurei, in icone Hookeriano unicolores, salvis striis quibusdam versus basin aurantiacis; verosimiliter tamen basi sanguineo-maculati in spontanea planta.

This species has in some respects the appearance of Dendrobium chrysanthum, from which however it is distinguishable both by its inflorescence and by the different shape of its petals.

39. Dendrobium auriferum.

D. caulibus teretibus pendulis, foliis oblongis obtusis integris, racemis lateralibus horizontalibus clavatis foliorum longitudine, bracteis cucullatis densè imbricatis, sepalis petalis labelloque lineari-lanceolatis conniventibus acuminatissimis.

Hab. in *China, Reeves.* (*v. ic. pict. sinens. in Bibl. Hort. Soc.*)

Flores aurei. Bracteæ virides. Sepala lateralia basi parum dilatata.

40. Dendrobium moniliforme. *Swartz.*

D. caulibus erectis ramosis, internodiis tumidis, foliis oblongis obliquè emarginatis obtusis, floribus geminatis foliis longioribus, sepalis petalis-

que oblongis acutis venosis, labello cucullato acuto conformi. *Lindl. in Bot. Reg. fol.* 1314.

Fu Ran. *Kæmpf. amœn. t.* 865.
Epidendrum moniliforme. *Linn. sp. pl.* 1352.
Dendrobium moniliforme. *Swartz act. Holm.* 1800. *p.* 246. *Willd. no.* 19.

Hab. in *Japoniæ* rupibus et arboribus. (*v. ic. pict. v. cult. e China allatum.*)

The Epidendrum monile of Thunberg, which that writer says has acute leaves and white flowers, is a distinct species. See D. catenatum.

41. Dendrobium catenatum.

D. caulibus teretibus erectis : internodiis tumidis, foliis lineari-lanceolatis acutis, racemis lateralibus 4-5-floris, sepalis petalisque lanceolatis acuminatis, labello oblongo tridentato.

Epidendrum monile. *Thunb. Fl. Jap.*

Hab. in *Japonia,* Thunberg ; in *China, Reeves.* (*v. ic. pict. sinens. in Bibl. Hort. Soc.*)

Sepala viridia. Petala alba. Labellum disco fulvum sub apice tridentato purpureo-maculatum.

42. Dendrobium denudans. *Don.*

D. caulibus brevibus cæspitosis erectis vaginis laxis foliorum vestitis, foliis oblongo-lanceolatis submembranaceis apice obliquis emarginatis, racemis lateralibus terminalibusque nutantibus multifloris, sepalis acuminatis : lateralibus basi incurvis, petalis minoribus, labelli trilobi lobo medio crenulato recurvo : lateralibus serratis.

Dendrobium denudans. *Don. Prodr.* 34. *Wall. Cat. no.* 2014.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict. Wall.*)

Flores albi, virescentes. Labellum viride, concolor.

This species is the most variable that I know in point of size. Some of Dr. Wallich's specimens are not more than an inch and half high, with two or three leaves and as many flowers on each individual, while others are six or seven inches high, with numerous distichous leaves, and three or four long nodding racemes, each consisting of eight or nine flowers. The species is always distinguishable by the loose membranous sheaths which clothe the stem when the leaves have fallen off.

43. Dendrobium cuspidatum. *Lindl. in Wall. Cat. no.* 2015.

D. caulibus brevibus erectis 3-5-phyllis, foliis lineari-oblongis apice obliquis emarginatis, racemis terminalibus 3-4-floris foliis brevioribus, bracteis lineari-ovatis acutis, petalis sepalisque lineari-lanceolatis acuminatis æqualibus : horum lateralibus basi incurvis cornu referentibus, labelli trilobi petalis duplò brevioris lobis lateralibus maximis erectis rotundatis integerrimis : intermedio ovato acuminato.

Hab. in *Tavoy, Wallich.* (*hab. s. sp. Museo Anglo-Indico.*)

This species resembles in many respects D. denudans, from which it is abundantly distinguished by the loose sheaths of the fallen leaves not covering the stem, and by the peculiar form of the lip. My specimens are from 3 to 4 inches high. The flowers appear to be white.

44. Dendrobium barbatulum. *Lindl. l. c. no.* 2013.

D. caulibus teretibus . . . . . ., foliis . . . ., racemis lateralibus termi-

nalibusque strictis multifloris, sepalis ovatis acuminatis, petalis obovatis acutis sepalo supremo majoribus, labello plano obovato obtuso apiculato integerrimo basi barbatulo.

Hab. in *India Orientali, Heyne.* (*hab. s. sp. e Museo Anglo-Indico.*)

Flores diaphani D. macrostachyi magnitudine.

Very nearly related to D. pulchellum from which it is distinguished by the much smaller size of the flowers, and the form of the labellum.

45. Dendrobium pygmæum. *Lindl. l. c. no.* 1999.

D. caulibus erectis cæspitosis vaginis laxis foliorum vestitis, foliis lineari-lanceolatis, racemis suberectis terminalibus multifloris foliorum longitudine, rachi angulato, bracteis membranaceis acuminatis, sepalis inferioribus ovatis acuminatis ad basin cornu incurvo connatis: supremo petalisque lineari-spatulatis acutis, labello unguiculato cuneato integro: callis duobus longitudinalibus in disco; margine anteriore carnoso crispo plicato lobo intermedio ovato.

? Dendrobium pusillum. *Don. Prodr.* 35.

Hab. ad Prome, *Martabaniæ, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Herba 2-3-pollicaris, verosimiliter cæspitosa. Pseudo-bulbi nulli. Racemi erecti v. cernui. D. denudanti affinis, sed labelli latera nullo modo serrata, et figura diversa.

46. Dendrobium linguæforme. *Swartz.*

D. caulibus teretibus repentibus, foliis sessilibus obovatis altè trisulcatis, racemis erectis multifloris, sepalis petalisque linearibus acuminatissimis, labelli abbreviati lobo medio undulato tricarinato.

Dendrobium linguæforme. *Swartz act. Holm.* 1800. *p.* 247. *Smith Exot. Bot. t.* 11. *Willd. n.* 24. *R. Brown Prodr.* 333.

Hab. in *insulis maris Pacifici; Nova Hollandia, Banks,* R. Brown. (*v. s. sp. in Herb. Banks.*)

Flores pallidè flavi. Labellum cristis luteis, lobis lateralibus cæruleis.

47. Dendrobium rigidum. *R. Brown.*

D. "caulibus repentibus, foliis oblongo-lanceolatis acutis carnosis longitudine racemi pauciflori patuli, perianthii foliolis oblongis acutiusculis æquantibus labellum laminâ oblongâ obtusâ." *Brown Prodr.* 333.

Hab. in *N. Hollandia* tropica; R. Brown.

48. Dendrobium flavescens.

D. "ebulbe, foliis paucis lineari-lanceolatis obtusis basi canaliculatis, floribus alternis subspicatis terminalibus pubentibus, labello intùs pubescente, limbo emarginato plicato." *Blume.*

Onychium flavescens. *Blume p.* 325.

Hab. in montosis Salak et Seribu, *Javæ,* florens Martio Octobri; Blume.

Flores parvi, flavi. *Bl.*

49. Dendrobium nudum.

D. "foliis lineari-lanceolatis inæquali-acuminatis membranaceis, racemis paucifloris, sepalis interioribus lanceolatis dorsali angustioribus." *Blume.*

Onychium nudum. *Blume p.* 325.

Hab. in altis montis Salak, *Javæ,* florens Maio Junio; Blume.

" Caules articulati, supernè flexuosi; flores dilutè purpurascentes, demùm flavescentes; labellum ad basin unguiculo præditum." *Bl.*

50. Dendrobium mutabile.

D. " foliis lineari-lanceolatis obtusis obliquè retusis membranaceis." *Blume.*

Onychium mutabile. *Blume p.* 324.

Hab. in montosis *Javæ,* florens Septembri Octobri; Blume.

Flores densè racemosi dilutè rosei, labello glandulis tribus sulphureis ornato. Gynostemium anticè pubescens. Petala sepalo supremo latiora. Labellum infernè unguiculo libero instructum. *Bl.*

51. Dendrobium rigidum.

D. " foliis lato-lanceolatis obliquè retusis rigidis." Blume.

Onychium rigidum. *Blume p.* 324.

Hab. in montosis *Javæ,* florens Septembri, &c. Blume.

" Flores albidi, labello glandulis tribus flavescentibus instructo; forsan varietas præcedentis (D. mutabilis) sed firmitate partium discrepat." *Bl.*

52. Dendrobium erosum.

D. " foliis subcoriaceis lanceolatis obtusis, racemis brevibus oppositifoliis subterminalibusve, sepalis obtusis, dorsali interioribus latiore, labelli limbo rotundato concavo eroso." *Blume.*

Pedilonum erosum. *Blume p.* 323.

Hab. in sylvis altioribus Salak, *Javæ,* florens Junio; Blume.

53. Dendrobium hymenophyllum.

D. " foliis membranaceis lanceolatis inæquali-acuminatis, pedicellis brevibus, sepalo dorsali interioribus obtusis æquali, sacco calcariformi longissimo, limbo labelli undulato." *Blume.*

Pedilonum undulatum. *Blume p.* 322. *t.* 36.

Hab. in sylvis Salak, *Javæ,* florens Junio; Blume.

Sepala purpurascentia; labellum flavum. *Bl.*

54. Dendrobium villosulum. *Wall. Cat. no.* 2006.

D. caulibus flagelliformibus longissimis pube deciduâ hispidis, foliis ovato-lanceolatis apice obliquè bilobis rectis, floribus ....

Hab. in *Penang, Wallich.* (*habeo s. sp. sine floribus e Museo Anglo-Indico.*)

Frustula tantum vidi. Species valdè distincta sed recognoscenda.

55. Dendrobium acuminatissimum.

D. " foliis membranaceis linearibus sepalisque acuminatissimis." *Blume.*

Grastidium acuminatissimum. *Blume p.* 335.

Hab. in convallibus montis Salak supra arbores, *Javæ,* florens Maio Junio; Blume.

Flores virescentes. *Bl.*

56. Dendrobium salaccense.

D. " foliis membranaceis lineari-lanceolatis obliquè retusis, sepalis acutis, labello obtuso intùs 1-lineato." *Blume.*

Grastidium salaccense. *Blume p.* 333.

Hab. in sylvis altioribus montis Salak, *Javæ,* florens Augusto Decembri; Blume.

Flores lutei. *Bl.*

57. DENDROBIUM rugosum.

D. " foliis subcoriaceis lanceolatis apice emarginatis, sepalis et labelli limbo acuminatis, labello intùs membranaceo-rugoso." *Blume.*

Grastidium rugosum. *Blume p.* 333.

Hab. in sylvis altioribus montis Salak, *Javæ,* florens Februario; Blume.

Flores flavi. *Bl.*

58. DENDROBIUM Kuhlii.

D. " foliis submembranaceis lanceolatis apice inæquali-obtusis, sepalo dorsali interioribus lato-lanceolatis latiori, labelli limbo spatulato acuto." *Blume.*

Pedilonum Kuhlii. *Blume p.* 321.

Hab. in montibus altioribus provinciarum occidentalium *Javæ,* florens Maio Julio; Blume.

Flores pallidè purpurascentes. *Bl.*

59. DENDROBIUM Hasseltii.

D. " foliis rigidis lanceolatis profundè obliquè emarginatis, sepalo dorsali interioribus lato-lanceolatis æquali, labelli limbo lineari-acuto." *Blume.*

Pedilonum Hasseltii. *Blume p.* 321.

Hab. ad montem Pangoerangoe ad truncos arborum, *Javæ,* florens Maio Junio; Blume.

Flores profundè purpurascentes. *Bl.*

60. DENDROBIUM æmulum. *R. Br.*

D. " caulibus erectis apice 2-3-phyllis, foliis ovali-oblongis integerrimis racemo terminali multifloro brevioribus, perianthii foliolis linearibus, labello infrà divisuram carinâ triplici; lobo intermedio semiovato acutiusculo unicarinato." *Brown.*

Dendrobium æmulum. *Br. Prodr.* 333. *Hooker in Bot. Mag.* 2906.

Hab. ad Portum Jackson, *Novæ Hollandiæ;* R. Brown.

Flores ex icone Hookeriano albidi labello rubroguttato.

61. DENDROBIUM speciosum.

D. caulibus erectis, apice 2-3-phyllis, foliis ovali-oblongis integerrimis racemo terminali multifloro brevioribus, perianthii foliolis angusto-oblongis, labello infrà divisuram carinâ unicâ; lobo intermedio latiore quam longo ecarinato." *Brown Prodr.* 332.

Dendrobium speciosum. *Exot. Bot. t.* 10.

Hab. in *Nova Hollandia* tropica, etiam ad *Portum Jackson.* (*v. s. sp.*)

62. DENDROBIUM undulatum. *R. Br.*

D. " foliis bifariis ovali-oblongis emarginatis, racemis oppositifoliis longissimis, labello intùs 5-carinato, lobo intermedio oblongo foliolisque interioribus perianthii undulatis." *Brown Prodr.* 332.

Hab. in *N. Holl.* tropica; *R. Brown;* Bustard's Bay, Bay of Inlets, Cape Grafton, &c. *Banks.* (*v. s. sp. in Herb. Banks. et habeo flores comm. a celeb. Brown.*)

NOTE. The figures of Rumphius
Vol. 6. t. 47. f. 1
——— t. 50. f. 1.
——— t. 51. f. 1.
belong to this section—but to species with which I am unacquainted.

§ III. *Caules undique foliosi, basi incrassati.*

63. DENDROBIUM crumenâtum. *Swartz.*

D. caulibus cæspitosis erectis basi incrassatis teretibus, foliis ovato-oblongis obtusis emarginatis, racemo terminali 3-5-floro, sepalis petalisque ovatis acuminatis subundulatis conformibus, labello cucullato undulato acuminato.

Angræcum crumenatum. *Rumph.* 6. *t.* 47. *f.* 2.
Dendrobium crumenatum. *Swartz. Willd. no.* 20. *Lindl. in Hort. Trans.* 7. *p.* 70.
Onychium crumenatum. *Blume p.* 326.

Hab. supra arbores, *Javæ,* Blume; *Sumatræ, Raffles; Penang, Wallich.* (*v. v. cult.*)

Flores albi, odorati, apicibus roseis, labelli disco luteo.

Variat floribus albidis et lilaceis, etiam foliis ovalibus v. oblongis retusis crassioribus; *Bl.*

64. DENDROBIUM angulatum. *Wall. Cat. no.* 2010.

D. caulibus gracilibus subramosis basi fusiformibus carnosis glaberrimis, foliis linearibus basi latioribus apice emarginatis obliquis, floribus e gemma paleacea exortis solitariis ....

Hab. ad *Attran, Martabaniæ, Wallich.* (*habeo s. sp. e Museo Anglo-Indico ferè defloratum.*)

Florem unicum mutilum tantum vidi, magnitudine et facie Apori ancipitis. Sepala lateralia cæteris multò majora. Petala sepalo supremo verosimiliter paulò minora. Folia minora.

65. DENDROBIUM Blumii.

D. "foliis lineari-lanceolatis obliquè retusis, floribus subterminalibus paleis cinctis, labello intùs disco supernè tricuspidato instructo, limbi lobo medio abbreviato fimbriato-bifido." *Blume.*

Onychium fimbriatum. *Blume p.* 325.

Hab. in sylvis montis Pantjar, *Javæ,* florens Junio; Blume.

Caules compressi ad basin bulbo dilatato-tetragono instructi. *Bl.*

66. DENDROBIUM tricuspe.

D. "foliis lineari-lanceolatis obtusiusculis, floribus terminalibus paleis cinctis, labello intùs disco supernè tricuspidato instructo, limbo lobo medio rotundato integerrimo." *Blume.*

Onychium tricuspe. *Blume p.* 326.

Hab. ad arbores in sylvis montis Salak, *Javæ,* florens Octobri; Blume.

"Caules compressi, supra basin bulbo compresso instructi. Accedit præcedenti (Onychio suo fimbriato) cui differt limbo labelli integerrimo." *Bl.*

67. DENDROBIUM lamellatum.

D. "foliis lato-lanceolatis in bulbis compressis vaginantibus, pedunculis confertis paucifloris ex apice bulborum erumpentibus, labelli limbo undulato, ungue gynostemii appendice lamellato instructo." *Blume.*

Onychium lamellatum. *Blume Bijd.* 326. *t.* 10.

Hab. prope Passir Ipis in Provincia Buitenzorg, *Javæ,* florens Junio Augusto; Blume.

68. DENDROBIUM tetraedre.

D. "foliis linearibus emarginatis membranaceis (parvis), floribus oppositifoliis alternis, labelli limbo undulato, caule tetraedri." *Blume.*

Onychium tetraedre. *Blume p.* 327.

Hab. in sylvis altioribus montis Salak, *Javæ,* florens Junio; Blume.

"Planta parva; bulbi fusini. Flores albido-purpurascentes, labello infernè unguiculo instructo, limbo semitrilobo." *Bl.*

69. DENDROBIUM connatum.

D. "foliis membranaceis ovali-oblongis, retusis, floribus oppositifoliis solitariis, labello infernè cum ungue gynostemii connato intùs verrucoso, limbo rotundato." *Blume.*

Onychium connatum. *Blume p.* 328.

Hab. ad pedem montis Salak, *Javæ,* florens Septembri Octobri; Blume.

"Caules incrassati, quasi articulati, foliis bifariis verticalibus. Flores albido-virescentes." *Blume.*

70. DENDROBIUM japonicum.

D. "foliis lineari-lanceolatis obtusiusculis, floribus subterminalibus alternis, pedicellis basi incrassatis, labello intùs pubescente, limbo ovato acuto." *Blume.*

Onychium japonicum. *Blume p.* 328.

Hab. in hortis Javæ ex *Japonia* allatum; Blume.

"Caules ebulbi sed supra basin incrassati, teretiusculi, articulati; flores liliacei, odorati; labellum basi ad marginem subciliatum, intùs pubescens, basi non appendiculatum; unguis gynostemii latus, concavus." *Blume.*

71. DENDROBIUM Ceraia.

Ceraia simplicissima. *Lour. Fl. Cochinch. p.* 518.

Hab. in sylvis *Cochinchinæ* et *Chinæ,* rupibus et arboribus inhærens, *Loureiro.* (*v. s. sp. in Herb. Banks.*)

In Herbario Banksiano adest exemplar ab ipso Loureiro, nomine Keranthi insignitum, quod procul dubio Ceraiæ ejus simplicissimæ pertinet. Unicum folium habet parvum lineare, sed flores nullos; esse autem Dendrobium quoddam D. crumenato valdè affine nihil dubito. Caules palmares basi tumidi fusiformes.

Note. The figures of Rumphius
Vol. 6. t. 44. f. 1.
——— t. 45. f. 1.
——— t. 46. f. 2.
belong to this section, but to species with which I am unacquainted.

June, 1830.

§ IV. *Caules undique foliosi versus apicem sensim incrassati, unde clavati fiunt.*

This section, and the preceding one also, represent the stem of Dendrobium passing towards the pseudo-bulbous state of Bolbophyllum.

72. Dendrobium densiflorum. *Wall. Cat. no.* 2000.

D. caulibus articulatis clavatis pendulis apice foliosis, foliis oblongis acutis nervosis, racemis lateralibus multifloris foliis longioribus: junioribus strobiliformibus, bracteis oblongis plicatis recurvis pedicellis longioribus, sepalis patentissimis ovatis obtusis, petalis conformibus majoribus, labello majore rhomboideo unguiculato serrulato retuso. *Lindl. in Wall. Pl. As. Rar. no.* 40.

Epidendrum Dumunsuttu. *Buchan. in Herb. Smith.*

Hab. in *Napalia, Wallich. (hab. s. sp. defloratum e Museo Anglo-Indico, v. ic. pict. et s. sp. in Herb. Smith.)*

73. Dendrobium nutans.

D. caulibus articulatis subclavatis hispidis apice foliosis, foliis ovato-lanceolatis apice valdè obliquè uncinato-bilobis, pedunculis subterminalibus bifloris foliis brevioribus, bracteis minimis, petalis sepalisque lineari-lanceolatis acuminatis æqualibus membranaceis, labello conformi carnoso crenulato indiviso, capsulis oblongis nutantibus.

Hab. in collibus Peradeniæ, *Zeylonæ*, supra arbores, florens Novembri, *Macrae. (habeo s. sp. et vidi iconem pictam.)*

Caules pedales v. sesquipedales, subflexuosi. Folia in genere parva, subtùs minutissimè hispidiuscula. Flores albi, subvirescentes, labello luteo. Capsulæ oblongæ, angulis depressis, sterilibus vittæformibus marginatis.

74. Dendrobium bicolor.

D. caulibus erectis elongatis subclavatis apice foliosis, foliis lanceolatis acutis, racemo brevi erecto terminali v. subterminali 3-4-floro foliis multò breviore, bracteis oblongis obtusis petaloideis venosis, petalis sepalisque oblongis obtusis æqualibus, labello trilobo obtuso: lobis lateralibus erectis rotundatis.

Hab. in Monte Nuera Ellia, *Zeylonæ*, supra arbores crescens, Augusto florens, *Macrae. (hab. s. sp. defloratum, et vidi iconem pict.)*

Bracteæ magnæ oblongæ petaloideæ venosæ bicolores, apice virides basi fusco rubræ. Flores albidi.

75. Dendrobium Heyneanum. *Lindl. in Wall. Cat. no.* 1995.

D. caulibus erectis flexuosis clavatis vaginis laxis foliorum vestitis, foliis lineari-lanceolatis acutis, racemis axillaribus patentissimis multifloris bracteis minimis ovatis, sepalis petalisque ovato-lanceolatis acutis subæqualibus, labello trilobo cum basi columnæ connato, callo longitudinali in disco: lobis lateralibus acutis intermedio subrotundo carnoso inciso-crenato.

Hab. in *India Orientali, Heyne. (hab. s. sp. e Museo Anglo-Indico.)*

Racemi pedunculati multiflori patentissimi unà cum figura labelli speciem distinguunt.

§ V. *Folia teretia, subulata, v. semicylindracea.*

76. Dendrobium crispatum. *Swartz.*

D. caule ramoso virgato tereti, foliis cylindraceis filiformibus subincurvis, racemis lateralibus simplicibus, labelli lobo medio revoluto undulato crenato.

Epidendrum crispatum. *Forst.! Prodr. n.* 315.
Dendrobium crispatum. *Swartz. act. Holm.* 1800. *p.* 247. *Willd. n.* 22.

Hab. in *Societatis insulis, Banks.* (*v. iconem Forsterianam in Bibliotheca Banksiana, et s. sp. in Herb. Banks.*)

Caulis articulatus, rigidus, lævigatus, graminis cujusdam ad instar. Folia teretia. Racemus terminalis.

77. Dendrobium canaliculatum. *R. Brown.*

D. " caulibus erectis abbreviatis bulbiformibus apice subtriphyllis, foliis semicylindraceis canaliculatis acutis carnosis, scapo terminali, racemo multifloro, perianthii foliolis oblongis, labelli lobis lateralibus oblongis; intermedio subrotundo acuto disco 3-lamelloso." *Brown Prodr.* 333.

Hab. in *N. Hollandia* tropica; R. Brown.

78. Dendrobium teretifolium. *R. Brown.*

D. " caulibus repentibus, foliis filiformibus teretibus, perianthii foliolis elongato-linearibus apice angustatis, labello tricarinato; lobo intermedio lineari-lanceolato acuminato crispato." *Brown Prodr.* 333.

Hab. ad Portum Jackson, *N. Hollandiæ*; R. Brown.

79. Dendrobium tenellum.

D. " foliis lineari-subulatis, floribus subterminalibus solitariis alternis, labelli limbo emarginato." *Blume.*

Onychium tenellum. *Blume p.* 327.

Hab. in arboribus circa catarractas calidas ad montem Gede, *Javæ*, florens Maio; Blume.

" Bulbi ovales, sulcati; flores albidi, sepalis acutis; labellum intùs striis purpurascentibus notatum." *Bl.*

80. Dendrobium gracile.

D. " foliis lineari-subulatis, floribus alternis solitariis geminisve, labelli limbo obtuso." *Blume.*

Onychium gracile. *Blume p.* 327.

Hab. in altioribus montis Gede, *Javæ*, florens Aprili; Blume.

" Bulbi ovales; flores nutantes, lilacini, sepalis obtusiusculis." *Bl.*

81. Dendrobium subulatum.

D. " foliis subcarnosis subulatis teretibus, pedicellis alternis subspicato-terminalibus, labelli limbo undulato emarginato." *Blume.*

Onychium subulatum. *Blume p.* 328.

Hab. locis humilioribus ad arbores *Javæ*, florens toto anno; Blume.

Caules ebulbi. Flores flavido-purpurascentes. *Bl.*

* *Species defectu exemplarium et ob descriptiones mancas valdè dubiæ—omnes recognoscendæ.*

82. ? DENDROBIUM carinatum. *Willd.*

D. foliis oblongo-lanceolatis compressis articulatis, scapis ramosis. *Willd. no.* 7.

Bontia luzonica. *Petiv. gazoph. t.* 44. *f.* 10.
Epidendrum carinatum. *Linn. sp. pl.* 1350.

Hab. in insulis *Luzonum.*

83. ? DENDROBIUM paniculatum. *Swartz.*

D. "caule infernè vestito foliis oblongis obtusis emarginatis, supernè ancipiti-vaginato, spiculis filiformibus paniculatis contiguis." *Swartz.*

Dendrobium paniculatum. *Swartz. Pers. syn. p.* 523.

Hab. in *Sierra Leone.*

84. ? DENDROBIUM roseum. *Swartz.*

D. "caule aphyllo erecto vaginis membranaceis ovato-lanceolatis vestito, racemo terminali, floribus deltoideo-conicis, labello spatulato crenulato." *Swartz.*

Dendrobium roseum. *Swartz. Pers. syn. p.* 523.

Hab. in *Sierra Leone.*

This very difficult and extensive genus, stands still in great need of reformation: particularly in the arrangement of the species. I am acquainted with several more than are here mentioned, but I am unwilling to introduce them without better materials.

I cannot conclude my account of the tribe of Orchideous plants with waxy pollen-masses destitute of glands and other secreting apparatus, without adverting to the genus Angræcum. I adopted this genus, some years since, from M. Du Petit Thouars, and published it in my Collectanea Botanica, t. 15. referring to it a plant, A. maculatum, found equally in Brazil and on the West coast of Africa, and now very common in the hot-houses of England. I described the pollen masses of this plant as destitute of a gland, and my drawing was in conformity with that description. I subsequently examined an imperfect living specimen of a Sierra Leone plant which I believe to be the Limodorum luridum of Afzelius, and which is in all probability also an Angræcum, and I took the pollen masses to be be as I had before seen them in my Angr. maculatum, that is to say destitute of a gland. In a memoir upon the Orchideous plants of the Mauritius and neighbouring islands, published in 1828, M. Achille Richard, who has examined specimens of several of Du Petit Thouars's Angræcums, expressly declares that in all these there is no gland, he says he has not seen *any thing like* caudicula (which is never found without a gland) in any one of them. Hence it would seem that no fact can be supported by more conclusive testimony than that Angræcum belongs to Malaxideæ; and yet this testimony I distrust so much that, without absolutely rejecting it, I cannot receive it; and for the following reasons. In the first place, I now know that my observation upon A. maculatum was incorrect; that plant has distinctly both a caudicula and gland; secondly, Du Petit Thouars in some cases, as t. 81. (*Œonia Auberti m.*) distinctly represents the pollen masses with glands, of which however M. Achille Richard denies the existence. Now in this case I prefer the evidence of M. Du Petit Thouars whose figure was taken from a fresh specimen. In the third place, M. Ach. Richard states that there is no gland in Angræcum gladiifolium; this happens to be the only Isle of France species I possess, and in my specimens I find a gland *from which the pollen masses have fallen.* Fourthly, the manifest close affinity between the Isle of France Angræcums and the Limodorum falcatum of Japan, and my Aeranthes grandiflorum, in both of which glands undoubtedly exist, persuades me that they are not really different in structure. Finally, the genus Angræcum has in some cases, as A. calceolus, caulescens, crassum, palmatum, &c. so completely the habit of the East Indian Aerides, that I feel great difficulty in believing them to be essentially different in the structure of their pollen masses.

This question can only be decided by a careful examination of good specimens, of which I am entirely destitute. I recommend the enquiry to those who are in possession of the requisite materials, or who are willing to oblige me by communicating them to me.

Note. The total number of Orchideous plants belonging to the Tribe Malaxideæ is as follows;

Pleurothalleæ	*described*	162	
———	*doubtful*	7	169
Dendrobieæ	*described*	205	
———	*doubtful*	6	211
		Total	380

Their geographical arrangement is thus:

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropic.	South America beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropic.	North Africa.
1. Pleurothallis	.	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.	.
2. Specklinia	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.
3. Octomeria	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
4. Lepanthes	.	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.
5. Stelis	.	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.
6. Osyricera	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
7. Chrysoglossum	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
8. Gastroglottis	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
9. Restrepia	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
10. Oberonia	.	.	.	4	1	2	6	.	.	.	3	.	.	.	1	.	.
11. Empusa	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
12. Platystylis	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
13. Microstylis	1	1	2	2	4	3	2	.	.	.	1	4	.	.	.	.	.
14. Dienia	.	1	.	3	.	1	.	1	.	.	.	2	.	.	.	.	.
15. Malaxis	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
16. Nephelaphyllum	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
17. Acianthus	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.
18. Cyrtosia	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
19. Liparis	1	.	2	2	6	6	14	1	1	1	1	1?	.	.	5	.	.
20. Dendrochilum	.	.	.	.	.	.	6	.	.	.	.	.	.	.	1	.	.
21. Otochilus	.	.	.	2	1	.	.	.	.	.	.	.	.	.	.	.	.
22. Cœlia	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
23. Pholidota	.	.	.	1	4	1	2	.	.	.	.	.	.	.	.	.	.
24. Dilochia	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
25. Cœlogyne	.	.	.	13	3	1	4	.	.	.	.	.	.	.	.	.	.
26. Dicrypta	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
27. Mesoclastes	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
28. Cochlia	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
29. Lyræa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
30. Megaclinium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.
31. Bolbophyllum	.	.	.	7	6	.	22	2	.	.	1	.	.	.	13	4	.
32. Cirrhopetalum	.	.	.	1	1	1	3	.	.	.	1	.	.	.	1	.	.
33. Trias	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
34. Macrostomium	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
35. Micrococelia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
36. Epicranthes	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
37. Monomeria	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
38. Stenoglossum	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
39. Diglyphosa	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
40. Mycaranthes	.	.	.	1	.	.	3	.	.	.	.	.	.	.	.	.	.
41. Phreatia	.	.	.	.	.	1	6	.	.	.	.	.	.	.	.	.	.
42. Eria	.	.	.	4	3	1	16	1	.	.	.	.	.	.	.	.	.
43. Aporum	.	.	.	.	1	.	4	.	.	.	.	.	.	.	.	.	.
44. Oxystophyllum	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.
45. Polystachya	.	.	.	.	.	1	.	.	.	.	.	1	.	.	3	1	.
46. Metachilum	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
47. Dendrobium	.	.	.	12	12	6	45	5	3	5	3	.	.	.	.	2?	.
Total	3	2	4	56	44	24	152	10	4	10	10	46	.	.	26	9	.

ORCHIDEÆ.

Tribe II. Epidendreæ.

Orchideæ, Tribus Epidendreæ. *Lindl. Orch. Sceletos.*

Pollen in massas cereaceas (pollinia) definitas cohærens, telâ cellulosâ in caudiculas elasticas pulvereas sæpiùs replicatas cohærente, glandulâ propriâ diaphanâ nullâ. Anthera terminalis, opercularis. Herbæ epiphytæ v. terrestres, sæpè caulescentes, nunc foliorum basibus v. caulibus incrassatis, rarissimè radicibus carnosis lobatis.

The distinction of this Tribe depends upon the peculiar state of the caudicula, which is not transparent, and connected with the stigma by means of a gland as in Vandeæ, but powdery, and very often turned back upon the face of the pollen masses. Some of the genera, such as Ceratium, in which this caudicula is very much reduced in size, approach Malaxideæ; nevertheless the limits of the Tribe seem sufficiently well defined.

Artificial Analysis of the Genera.

Pollinia 2.

Sepala et petala patentissima. Labellum semi-lunatum — 48. Collabium.

Pollinia 4.

Labellum cum columna connatum.
  Columna mutica elongata. Caudiculæ 4 - - - - 49. Epidendrum.
  Columna nana bicornis. Caudiculæ 2. Labellum basi tantum adnatum - - - - - - 50. Dinema.
  Columna mutica. Caudiculæ 2. Labellum plicis membranaceis inflexis columnæ connatum - - 71. Plocoglottis.
Labellum liberum, v. ferè,
  basi in calcar productum ovario adnatum - - 57. Broughtonia.
  ecalcaratum,
    circa columnam convolutum,
      anticum. Sepala petaloidea explanata - - 56. Cattleya.
      posticum. Sepala herbacea conniventia - - 51. Encyclia.
    explanatum,
      rectum. Sepala libera - - - - 52. Isochilus.
      medio refractum. Sepala lateralia in calcar spurium connata - - - - 53. Ponera.

Pollinia 8.

Labellum calcaratum, (calcare ab ovario libero),	
subintegrum, v. leviter trilobum. Anthera 8-locularis	63. PHAJUS.
altè trilobum,	
posticum. Anthera 2-locularis - -	64. CYTHERIS.
anticum. Anthera 6-8-locularis - -	66. ANIA.
Labellum ecalcaratum, nunc basi saccatum,	
integerrimum,	
circa columnam convolutum,	
sepalis difforme. Anthera septis marginatis	54. BRASSAVOLA.
sepalis conforme. Anthera septis incompletis	70. TAINIA.
patentissimum convexum - -	65. CALLOSTYLIS.
trilobum,	
sessile,	
lobo medio unguiculato,	
basi tuberculato - - -	59. SPATHOGLOTTIS.
basi nudo. Labellum basi in calcar productum ovario adnatum - -	58. TETRAMICRA.
lobo medio sessili.	
Sepala lateralia basi æquilatera.	
Labellum posticum - - -	55. LÆLIA.
Labellum anticum.	
Anthera 8-locularis. Labellum cum columna articulatum	60. BLETIA.
Anthera 4-locularis. Labellum circa columnam convolutum	62. ARUNDINA.
Sepala lateralia basi obliqua - -	67. CERATIUM.
unguiculatum,	
basi saccatum.	
Anthera 4-8-locularis. Sepala conniventia	68. APATURIA.
Anthera 2-locularis. Sepala explanata	61. IPSEA.
basi non saccatum - - -	69. TRICHOTOSIA.

XLVIII. COLLABIUM.

Collabium, *Blume Bijdr.* 357.

Sepala patentia v. reflexa, lateralibus infernè in calcar obtusum connatis. Petala conformia. Labellum ecalcaratum, ungue brevi sepalis lateralibus internè adnatum, limbo plano, semilunato, basi internè bicalloso, columnam amplectente. Columna obtusa, tortuosa, aptera. Anthera 2-locularis. Pollinia duo, ovato-globosa, caudiculis elasticis affixa.—Herba terrestris, radicibus (rhizomate?) repentibus, annulatis. Folia radicalia, remota, petiolata, elliptico-oblonga, nervosa, membranacea, nebulosa. Pedunculi radicales, elongati, simplices. Flores spicati, pedicellati, nutantes. *Character ex Blume.*

1. COLLABIUM nebulosum. *Blume, l. c.*

Hab. in convalli fluvii Tjapus ad montem Salak, *Javæ*; *Blume.*

XLIX. EPIDENDRUM.

Epidendrum. *Linn.* *Swartz Nov. Act. Ups.* 6. *p.* 66. *t.* 5. *f.* 2. *Brown in Hort. Kew. ed.* 5. 5. 217. Auliza *and* Amphiglottis *Salisb. in Hort. Trans.* 1. 261. &c.

Sepala patentia, subæqualia. Petala sepalis æqualia, v. angustiora, rariùs latiora, patentia v. reflexa. Labellum cum marginibus columnæ omninò v. parte connatum, limbo integro v. diviso, disco sæpiùs calloso, costato, v. tuberculato; nunc in calcar productum ovario accretum et cuniculum formans. Columna elongata: clinandrio marginato, sæpè

fimbriato. Anthera carnosa, 2-4 locularis. Pollinia 4, caudiculis totidem replicatis annexa.——Herbæ (Americanæ) epiphytæ, caule nunc apice v. basi pseudobulboso, nunc elongato apice folioso. Folia carnosa, rarissimè venis elevatis striata. Flores spicati, racemosi, corymbosi, v. paniculati, terminales v. laterales.

This most natural genus is unknown in the Old World. In its divisions I have followed M. de la Llave in distinguishing the pseudobulbous and caulescent species as two distinct tribes, to which I have added a third, characterized by its winged rachis. I know not how far the distinction between the species with a cuniculate ovarium, and those in which the labellum ends abruptly at the base of the column is important; but it is at present inapplicable to the genus, the circumstance not having been attended to in a great number of species.

§1. Foliis in pseudobulbos insidentibus.
§2. Foliis in caulem teretem distichis v. alternis; rachi terete.
a. Labello indiviso; v. repando.
b. ——— bilobo.
c. ——— trilobo; lobis lateralibus integerrimis: intermedio indiviso v. tantum emarginato.
d. ——— trilobo; lobis lateralibus laciniatis: intermedio indiviso v. tantum emarginato.
e. ——— quadrilobo; nempè trilobo: lobo intermedio bipartito.
§3. Foliis distichis; rachi alatâ ancipiti.

§I. *Foliis in pseudobulbos insidentibus.* Bot. Reg. 1415.

1. Epidendrum vitellinum.

E. foliis in pseudobulbos binis oblongis obtusis apice recurvis, racemo secundo terminali, sepalis petalisque ovato-lanceolatis acutis subæqualibus patulis, labello cuneato oblongo semilibero basi calloso.

Hab. in *Mexico*; *Pavon. (exam. s. sp. in Herb. Lambert.)*

Scapus 6-9 uncialis. Flores magni crocei nutantes. Labellum cum basi tantum columnæ connatum.

2. Epidendrum cochleatum. *Linn.*

E. foliis in pseudobulbos ovales geminatim insidentibus oblongis acuminatis subundulatis, sepalis petalisque paulò angustioribus lineari-lanceolatis reflexis, labello cordato cochleato subrotundo, columnâ brevissimâ.

Epidendrum cochleatum. *Linn. sp. pl.* 1351. *Jacq. ic. rar.* 3. *t.* 605. *Willd. no.* 1. *Bot. Mag. t.* 572.

Hab. in insulis *Indiæ Occidentalis* vulgatissimum. (*v. v. c. et hab. s.*)

Sepala et petala viridia. Labellum purpureum apice intus viride; basi bicallosum. Ovarium cuniculo nullo.

3. Epidendrum fragrans. *Swartz.*

E. foliis in pseudobulbum solitariis lanceolatis apice recurvis, scapo folio breviore, sepalis lineari-lanceolatis petalisque ovato-lanceolatis acuminatis patentibus, labello subrotundo cuspidato lineato integerrimo, racemo subtrifloro.

Epidendrum lineatum. *Salisb. stirp. p.* 10.
Epidendrum fragrans. *Swartz Prodr.* 122. *Fl. Ind. Occ.* 3.1487. *Willd. no.* 2. *Bot. Mag. no.* 1669. *Bot. Cab. t.* 1039.

Hab. super truncos arborum vetustos *Jamaicæ* interioris; Swartz. (*v. v. c.*)

Rhizoma repens. Pseudobulbus ovalis. Flores pallidè virides, labelli postici lineis purpureis, odore nocturno et vespertino grato ambrosiaco.

4. Epidendrum lancifolium. *Pavon. Mss.*

E. pseudobulbis elongatis teretibus, foliis oblongo-lanceolatis acutiusculis, racemo stricto terminali, sepalis petalisque lanceolatis acuminatis reflexis, labello cordato oblato-ovato cochleato.

Hab. in *Mexico; Pavon. (exam. s. sp. in Herb. Lambert.)*

Facies Epid. cochleati. Labellum venosum cristâ nullâ.

5. Epidendrum bracteolatum. *Presl. in Reliq. Hænk. p.* 100.

E. pseudobulbis sulcatis, foliis oblongo-lanceolatis obtusis, scapo tereti simplici, sepalis petalisque lanceolatis patentibus, labello obcordato obtuso crenulato basi cristato.

Hab. in *Guayaquil;* Presl.

E. cochleato videtur affine.

6. Epidendrum ligulatum. *La Llave Nov. Veg. Descr.* 2.26.

E. foliis in pseudobulbos binis? lanceolatis striatis, scapo filiformi, sepalis petalisque ligulatis reflexis, labello obcordato limbo subcrenato, capsulâ glabrâ.

Hab. in montibus Irapæi *Mexici;* La Llave.

Planta gracilis. Pseudobulbi ovati nudi. Flores purpureo-fusci, labello lutescente. Secundum autorem laudatum "E. adenocarpo differt fructu; sed aliis notis est illo valdè affinis;" at labellum huic tripartitum illi integrum, si fides ulla descriptionibus.

7. Epidendrum pastoris. *La Llave, Nov. Veg. Descr.* 2.23.

E. foliis in pseudobulbos binis ternisve elliptico-oblongis, scapo ancipiti depresso paucifloro, sepalis petalisque subæqualibus lineari-lanceolatis patentissimis, labello cordato auriculato disco sulcato.

Hab. supra arbores *Mexici* versus Acuitzuine, Undamæum usque ad Arium in provincia Michuacanensi; Llave.

Planta repens parasitica. Flores odorem, quasi Vanillæ suavissimum emittentes, lutescentes lineis purpurinis striatis, labello purpureo maculato; *Llave.*

8. Epidendrum labiatum. *Swartz.*

E. foliis oblongis acutis apice reflexis supra v. sub pseudobulbum nascentibus, scapis filiformibus paucifloris, sepalis petalisque oblongis obtusis concavis patentibus: anterioribus sub labello basi connatis, labello obovato subemarginato deflexo medio calloso.

Epidendrum labiatum. *Swartz Prodr.* 124. *Fl. Ind. Occ.* 1.1493. *Willd. no.* 7.
Liparis labiata. *Spreng. Syst.* 3.741.

Hab. in arboribus Crescentiæ, &c. *Hispaniolæ;* Swartz.

Folia sesquipollicaria. Flores parvi. Petala purpurea luteo striata. Labellum sæpè posticum; *Swartz.*

9. Epidendrum bidentatum.

E. foliis obovato-lanceolatis apice recurvis supra v. sub pseudobulbum nascentibus, racemo terminali erecto paucifloro, sepalis lanceolatis petalisque angustioribus patentibus, labello semilibero rhomboideo angulis utrinque uni-dentato.

Hab. in *Mexico;* Pavon. (*exam. s. sp. in Herb. Lambert.*)

Scapus palmaris e spatha magna foliacea ortus. Squamæ pseudobulborum coriaceæ nitidæ Cœlogynes more. Labellum apice callosum, tuberculis disci nullis.

10. Epidendrum odoratissimum. *Bot. Reg.* 1415.

E. foliis in pseudobulbos ovatos corrugatos binis ensiformibus, racemo subsimplici longiore, sepalis oblongis petalisque cuneatis patentibus, labelli ferè liberi trilobi lobis oblongis obtusis integris subæqualibus disco calloso depresso.

Macradenia lutescens. *Lodd. Bot. Cab.* non Bot. Reg.
Encyclia patens. *Hooker Bot. Mag. t.* 3013.

Hab. propè *Rio Janeiro.* (*v. v. cult.*)

Flores viridi-purpurei odoratissimi.

This is a very different plant from Dr. Hooker's original species of Encyclia, and is distinguishable from Epidendrum in nothing whatever except the labellum being only slightly connected with the columna, in which respect it agrees with Epidendrum vitellinum.

11. Epidendrum squalidum. *La Llave Nov. Veg. Descr.* 2. 24.

E. foliis lanceolatis retusis in pseudobulbos binis, scapo simplici flexuoso, sepalis petalisque subæqualibus patulis, labello tripartito : laciniis lateralibus linearibus intermediâ subreniformi emarginatâ undulatâ 3-sulcatâ.

Hab. in montibus *Mexici* prope Vallisoletum ; Llave.

Flores herbacei luridi, extùs purpurascentes, labello albido postico ; *Llave.*

12. Epidendrum concolor. *La Llave Nov. Veg. Descr.* 2. 25.

E. foliis in pseudobulbos confertos lenticulares solitariis lato-lanceolatis acutis, scapo filiformi 5-floro, sepalis ligulatis, petalis linearibus, labello tripartito laciniis integris intermediâ majore.

Hab. supra arbores *Mexici* propè Vallisoletum ; La Llave.

Planta gracillima. Bracteæ brevissimæ. Flores dilutè ochroleuci concolores ; labellum striatum.

13. Epidendrum venosum.

E. foliis ensiformibus obtusis supra et sub pseudobulbos fusiformes nascentibus, racemo striato simplici, sepalis lineari-lanceolatis petalisque angustioribus patentissimis, labello semilibero tripartito : laciniis lateralibus ovatis acutis intermediâ subrotundâ apiculatâ multo majore callo baseos et lineis tribus disci subramosis elevatis.

Hab. in *Mexico ; Pavon.* (*exam. s. sp. in Herb. Lambert.*)

Scapus terminalis pedalis. Labellum usque ad dimidiam columnæ adnatum, album venis elevatis violaceis.

14. Epidendrum auropurpureum.

E. foliis in pseudobulbos ternis lanceolatis margine revolutis, scapo erecto multifloro, sepalis petalisque patentibus oblongis cuneatis subæqualibus bicoloribus, labelli tripartiti laciniis lateralibus parvis ovatis integris, intermediâ maximâ cuneatâ dilatatâ altè bilobâ.

Helleborine floribus auropurpureis. *Plumier Mss.* —— atropurpureum. *Sp.* 9. *ic.* 178. *f.* 1. *ed. Burmanni.*
Epidendrum atropurpureum. *Willd. no.* 115.

Hab. in *Hispaniola*; Plumier.

Flores aurei apicibus purpureis, labello undique purpurascente, callo disci atrorubente; *Plumier.*

Plumier's Mss. and descriptions appear, from the copy in Mr. Lambert's Herbarium, to give a very clear account of this beautiful species; yet Burmann has, with his usual skill, converted the figure into a caricature and the name auro-purpureum, into atropurpureum.

15. Epidendrum adenocaulon. *La Llave l. c.* 2. 22.

E. foliis in pseudobulbos binis v. ternis ensiformibus coriaceis, scapo simplici glanduloso, sepalis petalisque lineari-lanceolatis subæqualibus patentissimis, labello tripartito laciniis lateralibus acutis involutis: intermediâ cordatâ emarginatâ obtusâ.

Hab. in *Mexico* supra arbores prope Vallisoletum; Llave.

Scapus bi-tripedalis. Bracteæ membranaceæ vaginantes. Pedunculi glandulosi. Flores dilutè violacei; labello venoso; *Llave.*

16. Epidendrum adenocarpon. *La Llave l. c.* 2. 24.

E. foliis in pseudobulbos binis lanceolatis coriaceis, scapo simplici, sepalis petalisque ligulatis obtusis, labello tripartito laciniis lateralibus acutis: intermediâ maximâ subrotundâ, capsulâ glandulosâ.

Hab. in montibus Irapæi, *Mexici*; Llave.

Flores lutei, punctis linearibus purpurinis miniati. Labellum luridum, ungulâ lineis rubris striatâ; *Llave.*

17. Epidendrum bifidum. *Aubl.*

E. foliis in pseudobulbos subternis lanceolatis, scapo ramoso foliis multò longiore, sepalis oblongis acutis petalisque lanceolatis patentibus, labelli cuneati lobis lateralibus ovatis: intermedio maximo apice dilatato subreniformi sulcato basi in disco biappendiculato.

Helleborine flore papilionaceo. *Plum. sp.* 9. *ic.* 186. *f.* 1.
Epidendrum bifidum. *Aubl. Guian. p.* 824. 20. *Swartz Fl. Ind. Occ.* 3. 1489. *Willd. no.* 3. *Redout. Lil. t.* 84.
Epidendrum papilionaceum. *West. St. Cruc. p.* 230. sec. Willd.

Hab. in arboribus ins. *St. Christophori, Bartholomæi*; Swartz; *St. Thomæ,* Riedley.

Scapus bitripedalis. Flores pallidè purpurei. Labellum atropurpureum, laciniis lateralibus ovatis; intermediâ basi angustâ, supra medium sulcatâ, lacinulis duabus rotundatis sanguineis sulco adnatis: apice dilatatâ subreniformi: lobis subrotundis leviter undulatis, patulis, venosis; *Swartz.*

18. Epidendrum ciliare. *Linn.*

E. foliis in pseudobulbos geminatim insidentibus, sepalis petalisque linearibus acuminatissimis, labelli trilobi lobis lateralibus setaceo-pectinatis intermedio setaceo brevioribus, spicâ subquinqueflorâ.

Epidendrum ciliare. *Linn. Sp. Pl.* 1349. *Jacq. Amer.* 224. *t.* 179. *f.* 89. *Swartz. Nov. Act. Ups.* 6. 69. *Willd. no.* 21. *Ker in Bot. Reg. t.* 784.
Auliza ciliaris. *Salisb. in Hort. Trans. l. c.*

Hab. in *Martinica*; Jacquin; in ins. *St. Vincentii*; *Hooker.* (*v. v. c. et hab. s. sp. comm. cel. Hooker.*)

E. cuspidato simillimum; gracilius et laciniis labelli tenuissimis. Flores pallidè virides; labellum album. Ovarium cuniculatum. Bracteæ lineari-lanceolatæ, acuminatæ. Pseudobulbi clavati, vestiti.

19. Epidendrum cuspidatum. *Loddiges.*

E. foliis in pseudobulbos ternatim insidentibus, sepalis lineari-lanceolatis acuminatis, petalis conformibus latioribus, labelli trilobi lobis lateralibus falcatis laciniatis intermedio lineari subæqualibus, spicâ subtriflorâ.

Epidendrum cuspidatum. *Lodd. Bot. Cab.* 10. *Ker in Bot. Reg.* 10. 783.
Epidendrum ciliare. *Bot. Mag.* 463.

Hab. in *Dominica; Loddiges; Mexico; Pavon.* (*hab. s. et v. v. c.; adest in Herb. Lambert.*)

Bracteæ breves, oblongo-lanceolatæ, sphacelatæ. Flores magni, lutei. Clinandrium denticulatum. Ovarium cuniculatum.

20. Epidendrum polystachyum. *Humb. et Kunth. Nov. Gen. et Sp. Pl.* 1.352.

E. foliis oblongis obtusis striato-nervosis geminatim in pseudobulbum insidentibus, scapo polystachyo, sepalis reflexis suboblongis acutis, petalis lanceolato-spatulatis, labelli trilobi lobis lateralibus irregulariter obovatis crenulatis: intermedio minore profundè emarginato.

Hab. in subfrigidis Andium *Pastoensium* inter pagum Yayanquer et flumen Guaitara: item sub cœlo mitiori provinciæ *Loxensis* in convallibus Malacatensibus quæ Cinchonam tolerant, alt. 900-1080 hex. Humboldt.

Scapus subbipedalis polystachyus. Spathæ marcidæ. Spicæ solitariæ, geminæ aut ternæ, alternæ, distantes, subsesquipollicares, patulæ. Flores lutei. *Kunth.*

21. Epidendrum Michuacanum. *La Llave l. c.* 2. 26.

E. foliis in pseudobulbos pyriformes ternis quaternisve ensiformi-lanceolatis, scapo ramosissimo, sepalis petalisque angustioribus cuneato-lanceolatis, labello tripartito laciniâ intermediâ reniformi bilobâ.

Hab. in montibus *Mexici*, provinciæ Michuacanensis, et prope Vallisoletum; La Llave.

Pseudobulbi magni. Folia pedalia et ultra conduplicata. Flores parvi, inodori, ochroleuci labello albicante; *La Llave.*

§ II. *Foliis in caulem teretem distichis, v. alternis; rachi terete.*

a. *Labello indiviso v. repando.*

22. Epidendrum fruticosum. *Pavon. Mss.*

E. foliis distichis ovato-oblongis acutis, caule ramoso fruticoso, racemo terminali nutante, sepalis cartilagineis petalisque membranaceis ovato-lanceolatis acutis erectis, labello subrotundo cordato retuso apiculato undulato callis 4 magnis confluentibus in disco.

Hab. in *Mexico; Pavon.* (*exam. s. sp. Herb. Lambert.*)

Caulis ramosus, ascendens, vestigiis vaginarum vestitus, pennam columbinam crassus. Bracteæ lineari-lanceolatæ ovarii ferè longitudine.

23. Epidendrum filicaule.

E. caule gracili ramosissimo, foliis linearibus acutis, sepalis cuneato-oblongis acutis petalisque filiformibus patentibus, labello subrotundo cordato retuso repando, spicis terminalibus 3-floris, rachi capillari.

Hab. in *Brazilia.* (*hab. s. sp. comm. amiciss. Prescott.*)

Flores parvi lineis tribus elevatis ad basin labelli.

24. Epidendrum ramosum. *Jacq.*

E. foliis linearibus obtusis emarginatis, racemis terminalibus laxis paucifloris, sepalis ovato-lanceolatis petalisque linearibus acutis patentibus, labello subcordato ovato acuto concavo rigido, bracteis ovarii longitudine, caule ramoso.

Epidendrum ramosum. *Jacq. Amer.* 221. *t.* 132. *Swartz Fl. Ind. Occ.* 1.1505. *Willd. no.* 16.
Isochilos ramosum. *Spreng. Syst.* 3.734.
Epidendrum rigidum. *Lodd. Bot. Cab. t.* 1600. non Jacquini.

Hab. in montibus *Jamaicæ,* in arboribus parasiticum; Swartz; in *Martinicæ* sylvis; Jacq.

Caulis subdichotomus. Flores parvi viridi-lutei. Variat magnitudine partium, simul ac latitudine foliorum; *Swartz.*

25. Epidendrum diffusum. *Swartz.*

E. foliis oblongis, caule ancipiti, paniculâ terminali ramosissimâ, sepalis lineari-lanceolatis petalisque setaceis erecto-patentibus striatis, labello cordato acuminato basi bicalloso.

Epidendrum diffusum. *Swartz Prodr.* 121. *Fl. Ind. Occ.* 3.1503. *Willd. no.* 15.

Hab. in arboribus *Jamaicæ* temperatioris; Swartz; *Mexico;* Pavon. (*exam. s. sp. in Herb. Lambert.*)

Caulis semipedalis, erectus, infernè aphyllus, supernè subflexuosus. Panicula sæpè pedalis. Flores parvi sanguinei; *Swartz.* Descriptioni optimæ Swartzii nihil addere velim, nisi sepala petalis latiora et ter striata, dum hæc tantum semel.

26. Epidendrum geminiflorum. *Humb. et Kunth. Nov. Gen. et Sp. Pl.* 1.354.

E. foliis oblongis obtusis coriaceis, pedunculis subbifloris, sepalis lanceolatis acuminatis patulis margine revolutis, petalis conformibus planis, labello ovato cordato subcucullato, caule repente ramoso.

Hab. in montanis opacatis provinciæ Popayanensis, inter flumen Mayo et pagum la Crux, alt. 1040 hex. Humboldt.

Caulis semipedalis. Pedunculi rarò triflori spathâ oblongâ obtusâ pollicari inclusa. Flores flavovirentes; *Kunth.*

27. Epidendrum fimbriatum. *Humb. et Kunth. Nov. Gen. et Sp.* 1.351.

E. foliis distichis linearibus obtusis rigidis, margine crenulatis, caule ramoso, sepalis oblongis obtusis patentibus, petalis conformibus paulò latioribus, labello ovato-subrotundo fimbriato, rachi racemi flexuosâ.

Hab. in Andibus *Popayanensium,* locis subapricis Parami Puracensis et in convalli fluminis El Vinagre, alt. 1370 hex. Humboldt.

Caules sex aut octopollicares. Flores albi. Labellum rubro-maculatum; *ex Kunthio.*

28. Epidendrum umbellatum. *Swartz.*

E. foliis distichis oblongis subundulatis obtusis, sepalis lineari-oblongis obtusis petalisque linearibus patentibus, labello indiviso rotundato repando transverso basi bicalloso, floribus corymbosis.

Epidendrum umbellatum. *Swartz Prodr.* 121. *Nov. Act. Ups.* 6. 68. *Willd. no.* 14. *Bot. Mag.* 2030. *Hort. Kew.* 5. 218.
Epidendrum difforme. *Jacq. Amer.* 223. *t.* 136.
Epidendrum corymbosum. *Fl. Peruv. Syst.* 246?

Hab. in *Jamaica;* Swartz; in *Martinica;* Jacquin; in ins. *St. Vincentii; Hooker;* in *Mexico; Pavon.* (*hab. s. sp. comm. cel. Hooker. et v. v. c.*)

Epiphyta, palmaris et ultrà, nunc sesquipedalis. Flores virides. Anthera intra clinandrium abscondita. Ovarium cuniculatum.

I retain the name of *umbellatum,* because it is now that which is generally adopted, although that of Jacquin, *difforme,* has the right of priority.

29. Epidendrum orchidiflorum. *Salzman.*

E. foliis distichis lineari-oblongis obtusis, caule apice nudo vaginato, racemo brevi terminali, floribus carnosis, sepalo supremo obovato lateralibus oblongis dimidiatis, petalis linearibus cuneatis, labello subrotundo basi unicalloso apice tridentato: dente intermediâ minore.

Hab. in fruticetis sabulosis *Bahiæ; Salzman.* (*hab. s. sp.*)

Folia unciam v. sesquiunciam longa, 3-4 lineas lata, carnosa, lucida. Caulis florifer pedalis. Ovarium cuniculatum. Flores magnitudine E. fusci.

30. Epidendrum gramineum.

E. foliis distichis lineari-lanceolatis acutis striatis, racemo terminali paniculato, sepalis oblongis acutis, petalis linearibus, labello cordato acuto medio plicato basi calloso.

Hab. in *Peruvia;* Pavon. (*exam. s. sp. in Herb. Lambert.*)

I have only examined the unexpanded buds of this, but it is apparently a species distinct from any mentioned in the Fl. Peruviana, unless it should be the E. acuminatum of that work.

31. Epidendrum acuminatum. *Fl. Peruv. Syst.* 248.

E. "foliis lanceolato-linearibus, racemo terminali, labello subhastato acuminato basi utrinque auriculato."

Hab. in Huassahassi montibus *Peruviæ;* Ruiz et Pavon.

32. Epidendrum ferrugineum. *Fl. Peruv. Syst.* 245.

E. "foliis oblongo-lanceolatis emarginatis, racemo simplici erecto, labello acuminato integro."

Hab. in Chinchao montibus nemorosis *Peruviæ;* Ruiz et Pavon.

33. Epidendrum lineare. *Fl. Peruv. Syst.* 249.

E. "foliis linearibus, racemo terminali subpaniculato, labello obcordato-cuneiformi basi utrinque dentato."

Hab. in nemoribus Chinchao, Muña, et Huassahuassi *Peruviæ;* Ruiz et Pavon.

34. Epidendrum? flexuosum. *Meyer Fl. Essequeb. p.* 260.

E. foliis distichis carnosis lanceolatis emarginatis, caule flexuoso, sepalis lanceolatis, petalis rhomboideis, labello acuminato subquadrato margine lacero.

Hab. in arboribus ad ripas rivi Arowabischkreek in *Essequebo;* Meyer.

Caulis 2-3 pedalis, compressus, a vagina ad vaginam flexuosus. Folia 6-pollicaria. Flores purpurei; *ex Meyero.*

b. *Labello bilobo.*

35. EPIDENDRUM radicans. *Pavon. Mss.*

E. foliis distichis cordatis ovatis obtusis, caule simplici apice aphyllo vaginato, sepalis petalisque lanceolatis acutis patentibus, labello bipartito laciniis subcuneatis deflexis fimbriatis basi bicalloso.

Hab. in *Mexico*; *Pavon. (exam. s. sp. in Herb. Lambert.)*

Facies E. elongati. Caulis radices longissimas albas simplices promens.

36. EPIDENDRUM cordatum. *Fl. Peruv. Syst.* 244.

E. "foliis cordatis amplexicaulibus, paniculâ flexuosâ, labelli bifidi laciniis acuminatis recurvis."

Hab. in *Chinchao* montibus nemorosis et runcationibus supra arbores et saxa; Ruiz et Pavon.

37. EPIDENDRUM volubile. *Fl. Peruv. Syst.* 247.

E. "foliis oblongo-obovatis, ramis volubilibus, labelli bifidi laciniis lanceolatis."

Hab. in *Peruviæ* præruptis, ad Acobamba; Ruiz et Pavon.

c. *Labello trilobo; lobis lateralibus integerrimis: intermedio indiviso v. tantum emarginato.*

38. EPIDENDRUM fuscatum. *Swartz.*

E. foliis distichis oblongis undulatis apice recurvis, sepalis oblongo-lanceolatis, petalis linearibus, labelli trilobi cordati lobis lateralibus rotundatis: intermedio leviter emarginato disco calloso, spicâ globosâ recurvâ.

Epidendrum fuscatum. *Swartz Nov. Act. Ups.* 6. 69. *Smith Spicil. Bot.* 21. *t.* 23. *Willd. no.* 23. *Bot. Reg. t.* 67. *Hooker in Bot. Mag. t.* 2844. *Loddiges Bot. Cab. t.* 887.
Epidendrum anceps. *Jacq. Amer.* 224. *t.* 138.
Amphiglottis lurida. *Salisb. in Hort. Trans. l. c.*

Hab. in *Jamaicâ*; Swartz; *Martinicâ*; Jacquin. (*v. v. c. et hab. s. c.*)

Spica pedunculo foliis longiore squamoso insidens. Flores fusco-virides. Petala in icone Hookeriano lutea, secundum alios fuscoviridia ut sepala.

Dr. Hooker's figure represents the species in a monstrous state: and the labellum is made too entire: the 3 lobes are very distinctly separated in all the specimens that I have seen.

39. EPIDENDRUM ovalifolium.

E. foliis distichis ovali-lanceolatis acutis, sepalis oblongo-lanceolatis, petalis linearibus, labelli trilobi cordati lobis lateralibus rotundatis mucronatis: intermedio lineari bilobo disco calloso basi bituberculato, racemo elongato.

Hab. in *Mexico*; *Pavon. (exam. s. sp. in Herb. Lambert.)*

E. fuscato valdè affine; differt præcipuè foliorum formâ, labelli lobis lateralibus mucronulatis intermedio lineari bilobo, et racemis elongatis.

40. EPIDENDRUM Hænkeanum. *Presl. Rel. Hænk.* 100.

E. foliis distichis ovato-lanceolatis nervosis acutis, spicâ paniculatâ, sepalis oblongo-lanceolatis acutiusculis in basin attenuatis, petalis spatulatis, labelli trilobi lobis lateralibus rotundatis, medio minore obcordato.

Hab. in montosis *Peruviæ*; Presl.

Scapus pedalis. Sepala 10 lineas longa. Folia 10 lineas lata.

41. EPIDENDRUM pallidiflorum. *Hooker Bot. Mag. t.* 2980.

E. foliis distichis oblongis linearibus obtusis, sepalis petalisque lanceolatis obtusis patentibus, labelli trilobi lobis subæqualibus rotundatis: intermedii marginibus involutis, spicâ corymbosâ pedunculatâ.

Hab. in insula *St. Vincentii;* Guilding.

Flores pallidè ochroleuci concolores.

42. EPIDENDRUM lignosum. *La Llave l. c.* 2. 28.

E. foliis distichis lineari-lanceolatis emarginatis, sepalis petalisque patentibus ...., labelli 3-partiti laciniis lateralibus obtusis intermediâ convexâ integrâ, florum fasciculis sparsis.

Hab. supra arbores *Mexici* prope Vallisoletum; Llave.

Valdè affinis E. anisato. Flores herbacei punctati; labellum striis purpureis ad basin; *Llave.*

43. EPIDENDRUM nocturnum. *Linn.*

E. foliis distichis oblongis acutis, floribus subgeminis terminalibus, sepalis petalisque linearibus acuminatis patentibus, labelli trilobi lobis lateralibus ovatis integerrimis intermedio setaceo brevioribus.

Epidendrum nocturnum. *Linn. Sp. Pl.* 1349. *Jacq. Amer.* 225. *t.* 139. *Swartz Nov. Act.* 6. 69. *Willd. no.* 20.

Hab. in sylvis montosis *Martinicæ;* Jacquin.

Planta vix pedalis. Flores tripollicares, viridi-lutei, noctu odorem suavissimum exhalantes; *Jacquin.*

44. EPIDENDRUM nutans. *Swartz.*

E. foliis oblongis distichis undulatis obtusis, racemo nutante multifloro, sepalis oblongo-lanceolatis petalisque lineari-lanceolatis obtusis patentibus, labelli trilobi lobis lateralibus cordatis ovatis: intermedio transverso truncato apiculato basi bicalloso venis tribus elevatis.

Epidendrum nutans. *Swartz Prodr.* 121. *Fl. Ind. Occ.* 1. 1499. *Willd. no.* 13. *Hooker Exot. Bot.* 1. *t.* 50 *optimè.*

Hab. in arboribus montium *Jamaicæ occidentalis;* Swartz. (*v. v. c.*)

Flores albo-virides vespere odorati. Ovarium cuniculatum.

45. EPIDENDRUM longiflorum. *Humb. et Kunth. Nov. Gen. et Sp. Pl.* 1. 354.

E. foliis oblongis obtusis striatis coriaceis, floribus paniculatis, sepalis petalisque lanceolato-linearibus acuminatis margine revolutis, labelli tripartiti laciniis lateralibus ovatis obliquè truncatis revolutis: intermediâ lanceolatâ acuminatâ margine revolutâ duplò longiore.

Hab. in declivitate montis Puruguay, inter Andes *Novo-Granatenses* emicantis, juxta villam Aguacillas, alt. 1480 hex. Humboldt.

Caulis pendulus. Flores 4-5-pollicares, flavi; *Kunth.*

46. EPIDENDRUM cernuum. *Humb. et Kunth. Nov. Gen. et Sp.* 1. 353.

E. foliis oblongis obtusis coriaceis, spicâ cernuâ, sepalis lanceolatis margine revolutis cuspidatis, petalis conformibus paulò longioribus, labello trilobo margine reflexo: lobis lateralibus subrotundis intermedio triplò majore ovato obtuso.

Hab. ad arbores in crepidinibus Andium *Popayanensium,* intra villam La Erre et convallem Yanacatu alt. 880 hex. Humboldt.

Caulis tripedalis et altior. Spica tripollicaris. Flores suavolentes flavo-virescentes. *Kunth.*

47. Epidendrum gladiatum.

E. foliis distichis gladiiformibus, racemis terminalibus fasciculatis corymbosis recurvis, sepalis oblongis obtusis margine reflexis petalisque spatulatis patulis, labelli trilobi lobis lateralibus subquadratis rotundatis intermedio multò minore obcordato basi bituberculato.

Hab. in *Peruvia; Pavon. (exam. s. sp. in Herb. Lambert.)*

Caulis pedalis, verosimiliter simplex, basi nudus, durus, pennam scriptoriam crassus, supernè foliosus curvus. Racemi breves e vaginis pluribus erumpentes. Sepala 4 lineas longa. Folia 4 uncias longa, 3 lineas lata.

48. Epidendrum conopseum. *R. Br.*

E. foliis binis radicalibus rigidis coriaceis, scapis multifloris, sepalis linearibus obtusis petalisque angustioribus spatulatis patentibus, labello obcordato obtusè trilobo.

Epidendrum conopseum. *R. Br. in H. Kew.* 5. 219. *Nutt. Gen.* 2. 198.
Epidendrum Magnoliæ. *Muhl. Cat.* 81.

Hab. in Magnoliis *Carolinæ* et *Georgiæ*; Nuttall, *Baldwin.* (*v. s. sp. in Herb. Lambert.*)

Planta 4-uncialis v. minùs. Flores lutei.

49. Epidendrum scabrum. *Fl. Peruv. Syst.* 248.

E. " foliis ovato-lanceolatis marginibus vaginisque scabris, racemo terminali, labello cruciformi."

Hab. in Pillao et Muña montibus *Peruviæ*; Ruiz et Pavon.

d. *Labello trilobo; lobis lateralibus laciniatis v. emarginatis: intermedio indiviso v. tantum emarginato.*

50. Epidendrum polyanthum.

E. foliis distichis ovali-lanceolatis acuminatis, caule ramoso, racemis plurimis multifloris cernuis basi spathaceis, sepalis ovato-lanceolatis acutis striatis, petalis linearibus reflexis, labelli trilobi lobis lateralibus ovatis dimidiatis denticulatis: intermedio lineari retuso disco tricostato.

Epidendrum polystachyum. *Pavon. Mss.* non H. B. K.

Hab. in *Mexico; Pavon. (exam. s. sp. in Herb. Lambert.)*

Caulis pennam anserinam crassus, longus, ex axilla omni racemos cernuos promens. Folia sex uncias longa, 1¼ lata. Sepala dura (in sicco), venis lignosis. Labelli laciniæ laterales erectæ, intermediæ margines incurvæ.

52. Epidendrum cinnabarinum. *Salzmann.*

E. foliis distichis oblongis carnosis acutis convexis subrecurvis, caule simplici apice aphyllo vaginato, sepalis petalisque lineari-oblongis acutis subæqualibus patentibus, labelli trilobi lobis lateralibus rotundatis laciniatis intermedio linguæformi apice furcato æqualibus.

Hab. in fruticetis sabulosis *Bahiæ; Salzmann. (hab. s. sp.)*

Facies E. elongati, sed flores triplo majores.

52. Epidendrum imatophyllum.

E. foliis distichis ligulatis obtusis subemarginatis, caule simplici apice

aphyllo vaginato, sepalis petalisque lanceolatis æqualibus patentibus, labelli trilobi lobis lateralibus laciniatis patentibus: intermedio cuneato subundulato apiculato.

Hab. in *Guiana*; *Hooker*. (*hab. s. sp. comm. cel. Hooker.*)

53. Epidendrum ibaguense. *Humb. et Kunth. Nov. Gen. et Sp.* 1. 352.

E. foliis distichis oblongis obtusis carnosis, caule simplici apice aphyllo, sepalis suboblongis acutis patentibus, petalis conformibus paulò minoribus, labelli trilobi lobo intermedio obcordato crenulato-fimbriato lateralibus fimbriatis ovatis dimidiatis apice rotundatis.

Hab. in locis temperatis regni *Novo-Granatensis* inter urbem Ibague et nobilissimum montem Tolimæ, alt. 740 hex.; Humboldt.

Flores aurantiaci; *Kunth.*

54. Epidendrum elongatum. *Jacq.*

E. foliis distichis oblongo-lanceolatis acutiusculis, caule apice longè aphyllo squamoso, sepalis petalisque patentibus lineari-lanceolatis æqualibus, labelli trilobi lobis lateralibus truncatis denticulatis: intermedio duplò majore cuneato apice dilatato emarginato denticulato basi calloso: callo carnoso concavo acuminato, racemo brevi oblongo.

Epidendrum elongatum. *Jacq. Ic. Rar.* 3. *t.* 604. *Swartz Nov. Act. Ups.* 6. 69. *Willd. no.* 24. *Bot. Mag. t.* 611.
Amphiglottis secunda. *Salisb. Hort. Trans. l. c.*

Hab. ad *Caraccas*; *Jacq.* (*hab. s. sp. et v. v. c.*)

Flores pallidè coccinei. Ovarium cuniculatum. Tubus inter labellum et columnam septo dividitur longitudinali ex apice ovarii orto sub stigmate desinente.

55. Epidendrum crassifolium.

E. foliis distichis ovato-oblongis obtusis carnosis concavis, caule apice longe aphyllo squamoso: squamis superioribus lineari-lanceolatis acuminatis, sepalis petalisque patentibus lineari-oblongis æqualibus, labelli trilobi lobis lateralibus dimidiatis denticulatis: intermedio cuneato apiculato denticulato majore basi calloso: callo carnoso concavo obtuso, racemo brevi subcorymboso.

Epidendrum ellipticum. *Lodd. Bot. Cab. t.* 1216. non Graham.

Hab. in insula *St. Vincentii*; *Hooker*. (*hab. s. sp. comm. cel. Hooker.*)

This is known from E. ellipticum by the form of its leaves, by the lateral segments of the labellum being smaller than the middle one, by the upper scales of the aphyllous stem being somewhat foliaceous with a long rigid point, and if Mr. Loddiges's figure be correctly quoted, which I can scarcely doubt, by the lilac colour of its flowers.

56. Epidendrum ellipticum. *Graham in Hook. Exot. Bot. t.* 207.

E. foliis distichis ellipticis obtusis concavis succulentis, caule apice longè aphyllo squamoso, sepalis petalisque patentibus lineari-lanceolatis æqualibus, labelli trilobi lobis lateralibus rotundatis laciniatis: intermedio minore truncato apice denticulato basi calloso, racemo brevi corymboso.

Hab. in *Brazilia*, prope Rio Janeiro; Graham, *Forbes*. (*hab. s. sp.*)

Very near E. elongatum, from which it differs in its elliptical blunt succulent leaves, small middle segment of the labellum and more corymbose flowers, which are also paler.

57. Epidendrum secundum. *Linn.*

E. foliis distichis oblongis emarginatis, caule apice longè aphyllo squamoso, sepalis petalisque æqualibus, labelli trilobi lobis lateralibus emarginatis conniventibus intermedio subrotundo concavo emarginato ascendente paulo minoribus, racemo brevi secundo.

Epidendrum secundum. *Linn. Sp. Pl.* 1349. *Jacq. Amer.* 224. *t.* 137. *Willd. no.* 22.

Hab. in sylvis *Martinicæ* montosis; Jacquin.

Flores toti purpurei; *ex Jacq.*

58. Epidendrum dichotomum. *Presl. Rel. Hænk.* 101.

E. foliis distichis lanceolato-oblongis obtusis, caule apice aphyllo squamoso subdichotomo, sepalis petalisque lanceolatis acutis reflexis, labelli tripartiti laciniis fimbriatis: lateralibus rotundatis patentissimis intermediâ majore obcordatâ.

Hab. in montosis ad Huanoco *Peruviæ*; Presl.

Scapus bipedalis. Folia 3 pollices longa. Flores flavescentes.

Seems very near E. elongatum.

e. *Labello quadrilobo, nempè trilobo: lobo intermedio bipartito; v. sexlobo.*

59. Epidendrum verrucosum. *Swartz.*

E. foliis distichis lanceolatis obliquè patentibus vaginis verrucosis, floribus subpaniculatis, sepalis oblongis concavis acutis petalisque lineari-lanceolatis patulis, labello 4-lobo laciniis linearibus obtusis divaricatis: anterioribus minoribus.

Epidendrum verrucosum. *Swartz Fl. Ind. Occ.* 3. 1497. *Willd. no.* 11. *Lodd. Bot. Cab. t.* 1084.

Hab. in truncis arborum *Jamaicæ*; Swartz.

Caules simplices, erecti, 2-pedales v. suborgyales; sepala et petala pallidè viridia; labellum luteum; scapi radicales; *Swartz.* Panicula terminalis; *Loddiges.* An duæ species hic confusæ?

60. Epidendrum patens. *Swartz.*

E. foliis distichis oblongo-lanceolatis, racemo terminali, sepalis petalisque subæqualibus oblongis acutis concavis patentibus, labelli quadrilobi lobis lateralibus subrotundis: anterioribus linearibus obtusis conniventibus.

Epidendrum patens. *Swartz Fl. Ind. Occ.* 1. 1495. *Willd. no.* 10. *Bot. Cab. t.* 1537.

Hab. in sylvis montium *Jamaicæ*; Swartz.

Caulis spithamæus v. pedalis. Flores pallidi. Sepala extùs carinata ferruginea.

61. Epidendrum paniculatum. *Fl. Peruv. Syst. p.* 243.

E. foliis distichis oblongo-lanceolatis acuminatis, caule apice vaginis acuminatissimis membranaceis vestito, paniculâ confertâ multiflorâ, sepalis oblongis venis extùs varicosis, petalis filiformibus, labelli quadrilobi laciniis posticis brevibus oblongis obtusis: anticis linearibus divaricatis, disco callis tribus et tuberculis duobus.

Hab. in *Huayaquil*; *Pavon.* (*exam. s. sp. in Herb. Lambert.*)

Species spectatissima. Panicula ferè pedalis floribus confertissimis. Bracteæ subulatæ.

62. Epidendrum anisatum. *La Llave l. c. 2. 27.*

E. foliis distichis elliptico-lanceolatis, sepalis petalisque patentibus linearibus obtusis, labelli tripartiti laciniis lateralibus obtusis intermediâ profundè bilobâ: lobis acutis.

Hab. supra arbores *Mexici* propè Vallisoletum; Llave.

Planta pedalis. Flores luridi noctu odorem anisatum emittentes, sæpius impunctati. Labellum lineis tribus purpureis ad insertionem; *Llave.*

63. Epidendrum floribundum. *Humb. et Kunth. Nov. Gen. et Sp.* 1.353. *t.* 86.

E. foliis lanceolato-oblongis acuminatis submembranaceis, paniculâ terminali, sepalis reflexis lanceolatis, petalis filiformibus, labelli quadrilobi basi bituberculati lobis lateralibus subrotundis, terminalibus linearibus divaricatis.

Hab. in locis temperatis nemorosis provinciæ *Bracamorensis* inter Amazonum flumen, pagum Puyaya et urbem Jaen, alt. 230 hex. Humboldt; in *Mexico; Pavon. (exam. s. sp. in Herb. Lambert.)*

Caulis pedalis. Panicula semipedalis. Sepala viridia. Petala et labellum alba. Variat foliis oblongis, lanceolato-oblongis et linearibus; *Kunth.*

64. Epidendrum raniferum.

E. foliis distichis lanceolatis obtusis, racemis terminalibus lateralibusque divaricatis multifloris, sepalis ligulatis undulatis apice recurvis petalisque linearibus cuneatis mucronulatis patentissimis, labelli sexlobi basi bicallosi laciniis integerrimis: posticis rotundatis—intermediis linearibus—anticis linearibus obtusis retrorsum falcatis.

Hab. in *Mexico; Pavon. (exam. s. sp. in Herb. Lambert.)*

Caulis crassus, verosimiliter 2-3-pedalis. Folia 7 uncias longa, unam lata. Racemi semipedales. Sepala 10 lineas longa.

This is in Mr. Lambert's Herbarium from Pavon under the names both of Ophrys tigrina, and Epidendrum racemosum; as I have no means of ascertaining which of these names was intended to be applied by the latter Botanist, I have not hesitated, in this and in other cases, to reject both.

65. Epidendrum coronatum. *Fl. Peruv. Syst.* 242.

E. "foliis ovato-lanceolatis, racemis dependentibus, labello trilobo: laciniis bifidis intermediâ minori."

Hab. in *Pozuzo* supra arbores et saxa; Ruiz et Pavon.

66. Epidendrum cristatum. *Fl. Peruv. Syst.* 243.

E. "foliis lanceolatis, racemo dependente, labello tripartito: laciniâ mediâ bifidâ, lateralibus tripartitis."

Hab. supra arbores in nemoribus *Pozuzo;* Ruiz et Pavon.

67. Epidendrum viride. *Fl. Peruv. Syst.* 244.

E. "foliis lanceolatis acutis, racemo terminali, labii trilobi laciniis lateralibus obcordatis, intermediâ bifidâ."

Hab. in *Peruviæ* nemoribus ad *Pozuzo* vicum supra arbores; Ruiz et Pavon.

68. Epidendrum parviflorum. *Fl. Peruv. Syst.* 245.

E. "foliis lanceolato-linearibus, racemo brevi, labelli trilobi laciniis subrotundis: intermediâ bipartitâ acutâ.

Hab. in Muña et Chaclla montibus *Peruviæ;* Ruiz et Pavon.

§ III. *Foliis distichis; rachi alatâ ancipiti: bracteis carinatis.*

69. Epidendrum bifarium. *Swartz.*

E. foliis distichis cordato-lanceolatis horizontalibus, spicâ terminali flexuosâ, rachi ancipiti, sepalis ovato-lanceolatis convexis, petalis brevioribus setaceis, labelli dilatati trilobi lobis lateralibus subrotundis integris: intermedio bilobo.

Epidendrum anceps. *Swartz Prodr.* 121.
Epidendrum bifarium. *Swartz Fl. Ind. Occ.* 3. 1509. *Willd. no.* 19.

Hab. in montibus altis *Jamaicæ* australis, supra truncos arborum; *Swartz.* (*v. s. sp. in Herb. Smith.*)

Caulis 2-4-uncialis. Flores viridi-albi. Bracteæ subfalcatæ, carinatæ, ovarii longitudine; *Swartz.*

70. Epidendrum rigidum. *Jacquin.*

E. foliis distichis ovato-oblongis obtusis, spicæ flexuosæ rachi ancipiti, sepalis coriaceis ovatis obtusis patentibus lateralibus majoribus, petalis linearibus membranaceis, labelli postici cordato-ovati obtusi palato calloso cuniculo inflato, bracteis foliaceis dolabriformibus carinatis ovarii longitudine.

Epidendrum rigidum. *Jacq. Amer.* 222. *t.* 134. *Swartz Fl. Ind. Occ.* 3. 1507. *Willd. no.* 17.

β. labello subrotundo.

Hab. in sylvis montium *Jamaicæ;* Swartz; *Martinicæ;* Jacquin; *St. Vincentii; Hooker; Hispaniolæ; Mackenzie; β Mexico; Pavon.* (*hab. s. sp. comm. cel. Hooker et Mackenzie; exam. β in Herb. Lambert.*)

Caules simplices, palmares, ancipites. Flores parvi, virides. β fortè species diversa.

71. Epidendrum imbricatum.

E. foliis distichis lineari-oblongis obtusis, caule ramoso, spicis ovato-oblongis imbricatis, sepalis petalisque ovatis acutis æqualibus erectis, labello ovato acuto obsoletè crenulato, bracteis carinatis obtusis.

Hab. in *Brazilia.* (*hab. s. sp. comm. amiciss. Prescott.*)

Ovarium altè cuniculatum.

*** *Species obscuræ, valdè dubiæ, auctoribus descriptæ, sed systemate vix admittendæ.*

Epidendrum vomeriforme (Swartz Prodr. 124. Fl. Ind. Occ. 3. 1511. Willd. no. 25.); "caulescens foliis bulbis innatis carnosis ovato-acuminatis convexis canaliculatis subtus carinatis, scapis e sinu foliorum." *Jamaica;* Swartz. Species minima. Flores ignoti. (*v. s. sp. in Herb. Smith.*)

Epidendrum angustifolium (Swartz Prodr. 123. Fl. Ind. Occ. 3. 1512. Willd. no. 26.); "folio lineari bulbo innato, scapo paniculato." *Jamaica;* Swartz.

Epidendrum ? turbinatum (La Llave Nov. Veg. Descr. 2. 41.); "bulbis oblongo-turbinatis confertis membranis laceratis præcinctis, scapo ex bulbis prodeunte, foliis lineari-lanceolatis coriaceis bulbo adnatis." *Mexico;* La Llave.

Epidendrum ? mayzifolium (La Llave Nov. Veg. Descr. 2. 42.); "bulbis fusiformibus pedalibus articulatis, foliis distichis ensiformibus trinerviis." *Mexico;* La Llave.

N. B. Species reliquas Floræ Peruvianæ prætereo.

L. DINEMA.

Dinema. *Orch. Sceletos, p.* 6.

Sepala et petala subæqualia, herbacea, patentia. Labellum majus, membranaceum, indivisum, unguiculatum, cum basi columnæ accretum. Columna nana, bicornis. Anthera bilocularis. Pollinia 4, per paria caudiculis duobus replicatis adnata.——Herba epiphyta, rhizomate repente annulato pseudobulbifero. Folia coriacea. Flores solitarii, terminales, pedunculo vaginato.

This genus differs from Isochilus chiefly in its labellum being large, membranous and extremely different in appearance from the petals; and in these last, and the sepals being spreading not connivent. It is distinguished from Epidendrum by its short two horned labellum.

1. Dinema polybulbon.

Epidendrum polybulbon. *Swartz Fl. Ind. Occ. p.* 1491. *Hooker Exot. Fl. t.* 112.

Hab. in *Jamaica,* Swartz; in *Mexico, Pavon.* (*v. s. sp. in Herb. Lambert.*)

Pseudobulbi ovales, squamis ovatis obtusis vestiti. Folia bina, oblonga, obtusa, pedunculis æqualia. Sepala et petala viridia, venis sanguineis. Labellum album. Columna sanguinea.

LI. ENCYCLIA.

Encyclia. *Hooker in Bot. Mag. t.* 2831.

Sepala et petala subæqualia, conniventia. Labellum (posticum) cucullatum, columnam involvens, apice trilobum, basi callosum. Columna libera, semiteres, clavata, cum labello parallela. Anthera 4-locularis, septis marginatis. Pollinia 4, collateralia, caudiculis totidem revolutis. ——Herba epiphyta, pseudobulbosa, Epidendri facie, foliis coriaceis. Inflorescentia terminalis.

This genus differs from Cattleya in its small half-closed flowers, the labellum of which is posterior with a great callus at its base, and also in its panicled flowers; otherwise it approaches it very nearly. From Epidendrum it cannot be distinguished either by its herbage, or inflorescence, and in its fructification is so similar to that genus that with the exception of its four celled anther, and cucullate labellum, it possesses no peculiar character. The posterior labellum is observed in many undoubted Epidendra, and in some species of the same genus the cohesion between the lip and the column is very slight. So slight indeed are the marks of distinction between Encyclia and Epidendrum that Dr. Hooker's second species of the former (E. patens) unquestionably belongs to the latter genus; see Epidendrum odoratissimum.

1. Encyclia viridiflora. *Hooker l. c.*

Hab. in *Brazilia,* prope Rio Janeiro; Hooker.

Pseudobulbi ovati vaginâ scariosâ tecti. Folia ensiformia, subrecurva, acuta, per paria nata. Panicula multiflora. Flores herbacei, versus basin purpurascentes. Sepala lineari-lanceolata, lateralia subfalcata. Labellum lobis lateralibus ovatis obtusis, intermedio margine undulato.

LII. ISOCHILUS.

Isochilus. *R. Brown in Hort. Kew. ed.* 2. 5. 209. *Kunth Nov. Gen et Sp. Pl.* 1.340.

Sepala et petala subæqualia, libera, conniventia; illorum anterioribus nunc basi paululum dilatatis et invicem connatis. Labellum unguiculatum, indivisum, petalis sæpius conforme, cum columna articulatum. Columna clavata, semiteres, bi-tricornis. Anthera 4-locularis. Pollinia 4, collateralia, caudiculis ligulatis replicatis.——Herbæ parvæ epiphytæ, caule nunc tereti distichè folioso, nunc pseudobulboso apice tantum folioso. Flores parvi, albi v. purpurei.

1. Isochilus lineare. *R. Br.*

I. caule tereti, foliis distichis linearibus emarginatis, racemo cernuo terminali, labello lanceolato obtuso.

Epidendrum lineare. *Linn. Sp. Pl.* 1349. *Jacq. Amer.* 221. *t.* 131. *f.* 1.
Cymbidium lineare. *Swartz Nov. Act. Ups.* 6. 72. *Willd. no.* 13.
Isochilus linearis. *R. Br. l. c. Kunth Nov. Gen. et Sp.* 1. 340. *Bot. Reg.* 9. *t.* 745. *Bot. Cab. t.* 1341.

Hab. in sylvis densis *Martinicæ*; Jacquin. (*v. v. c.*)

Flores purpurei. Labellum sanguineo maculatum.

2. Isochilus globosum.

I. caule simplici subunifloro, foliis teretibus canaliculatis, labello ovato acuto concavo, petalis quam sepala minoribus.

Epidendrum globosum. *Jacq. Amer*, 222. *t.* 133. *f.* 1. *Swartz Prodr.* 121.
Cymbidium globosum. *Swartz Fl. Ind. Occ.* 1467. *Willd. no*, 17.

Hab. in summis ramis arborum *Jamaicæ* interioris, Swartz; *Martinicæ*, Jacquin; *St. Vincentii, Hooker*. (*v. s. sp.*)

Flores minuti, rubicundi. Petala minora lutea.

3. Isochilus teretifolium.

I. caule simplici folioso, foliis distichis teretiusculo-triquetris obtusis carnosis, flore solitario, labello striato apice triquetro incrassato, petalis quam sepala duplò minoribus.

Epidendrum teretifolium. *Swartz Prodr.* 121.
Cymbidium teretifolium. *Swartz Fl. Ind. Occ.* 1463. *Willd. no.* 15.

Hab. in arboribus in montibus excelsis *Jamaicæ* australis; Swartz.

Caulis pedalis. Flos luteo-viridis, terminalis in caule versus apicem nudo subcompresso.

4. Isochilus graminifolium. *Kunth.*

I. caule ramoso folioso, foliis distichis linearibus acuminatis membranaceis, floribus axillaribus solitariis, labello obovato-oblongo obtuso basi angustato, sepalis petalisque lineari-lanceolatis subæqualibus.

Isochilus graminifolius. *Humb. Bonpl. et Kunth. Nov. Gen. et Sp. Pl.* 1. 340. *tab.* 78. *Synops.* 1. 329.

Hab. in declivitate Andium *Popayanensium*, nemoribus opacissimis inhorrescentium, juxta villam La Erre, ad radices Parami de Puruguay, alt. 1064 hexap. florens Novembri; Humboldt.

Caules erecti subpedales. Folia sesquipollicaria, vix duas lineas lata. Calyx albus, glaber. Capsula glabra; *ex Kunthio.*

5. Isochilus proliferum. *R. Br.*

I. caule carnoso tereti subcylindraceo prolifero apice subdiphyllo, foliis linearibus emarginatis, floribus axillaribus fasciculatis, labello lineari obcordato ungue calloso.

Epidendrum proliferum. *Swartz Prodr.* 124.
Cymbidium proliferum. *Swartz Fl. Ind. Occ.* 1451. *Willd. no.* 5.
Isochilus prolifer. *R. Br. in H. Kew. ed.* 2. 5. 209. *Lindl. in Bot. Reg.* 10. *t.* 825.

Hab. supra truncos vetustos inter muscos in montibus altis *Jamaicæ* australis; Swartz. (*v. v. c.*)

Flores albi e bracteis imbricatis nati. Labellum disco discolore.

6. Isochilus fusiforme.

I. caule ovato tereti carnoso basi angustato prolifero, foliis linearibus emarginatis mucronatis, floribus solitariis axillaribus nudis, labello oblongo membranaceo apice dilatato triangulari.

Hab. in *Trinidad; Lockhart.* (*v. v. c.*)

Facies I. proliferi quo differt internodiis fusiformibus, floribus majoribus solitariis ebracteatis magis patentibus, et labelli disco non discolore. Flores albi concolores.

§ *Elleanthus; Presl.*

Genus fortè distinctum, sed, characteribus autoris nimis vagis, ab Isochilo nihil diversum nisi bracteis membranaceis floribus longioribus.

7. Isochilus? linifolium.

I. caule simplici folioso, foliis distichis linearibus apice tridentatis, spicâ distichâ terminali, floribus bracteis inclusis.

Elleanthus linifolius. *Presl. Reliq. Hænk. p.* 97.

Hab. in montanis *Peruviæ* ad Huanoco; Presl.

Caules semipedales, ancipites. Folia sesquipollicem longa, 1 lineam lata, glabra. Spica pollicaris breviorque. Bracteæ 5 lineas longæ. Flores flavescentes, sesquilineam longi; *Presl.*

8. Isochilus? lancifolium.

I. caule ancipiti vaginato apice triphyllo, foliis lanceolato-nervosis serrulatis plicato-nervosis apice tridentatis, spicâ distichâ terminali reflexâ, floribus bracteis inclusis.

Elleanthus lancifolius. *Presl. Reliq. Hænk.* 97.

Hab. in *Guayaquil;* Presl.

Caulis pedalis. Folia 4 pollices longa, vix 5 lineas lata. Vaginæ tuberculato-scabræ. Bracteæ ovato-lanceolatæ, longè acuminatæ, floribus duplò longiores. Flores flavescentes; *Presl.*

LIII. PONERA.

Sepala membranacea, lateralia paulò majora, basi in saccum connata. Petala multò angustiora. Labellum posticum, membranaceum; ungue concavo cum basi producta sepalorum lateralium articulato, ascendente, laminâ refractâ lineari subsagittatâ truncatâ subemarginatâ. Columna

semiteres cum ovario continua. Anthera bilocularis. Pollinia 4, collateralia, caudiculis reflexis.——Herba epiphyta, caule erecto, tereti, simplici, filiformi. Folia linearia subulata canaliculata secunda. Racemi subbiflori terminales. Flores parvi. Bracteæ ovatæ acutæ.

1. Ponera juncifolia.

Epidendrum graminifolium. *Pavon. Mss.*

Hab. in *Mexico*; Pavon. (*exam. s. sp. in Herb. Lambert.*)

Caules palmares. Folia vaginis minutissimè verrucosis. Racemus ex axilla folii terminalis quadruplo quintuplovè longioris.

LIV. BRASSAVOLA.

Brassavola. *R. Brown in Hort. Kew. ed.* 2. 5. 216.

Sepala et petala subæqualia, libera, acuminata. Labellum cucullatum, integrum, columnam involvens. Columna marginata, clavata, stigmate infundibulari, clinandrio posticè tridentato. Pollinia 8, subæqualia, quibusdam aliis parvis interjectis. Anthera 4-locularis, septis marginatis, loculis semibipartitis.——Herbæ caulescentes, epiphytæ, apice folium unicum v. alterum, semicylindraceum, carnosum, suprà sulcatum, apice subulatum, gerentes. Flores terminales, magni, speciosi.

1. Brassavola cucullata. *R. Brown in Hort. Kew. ed.* 2. 5. 216.

B. labello cucullato fimbriato apice integro petalis sepalisque acuminatissimis.

Helleborine floribus albis cucullatis. *Plum. Sp.* 9. *ic.* 179. *f.* 1.
Epidendrum cucullatum. *Linn. Sp. Pl.* 1350. *Bot. Mag.* 543.
Cymbidium cucullatum. *Swartz Nov. Act. Ups.* 6. 73.

Hab. in *India Occidentali.*

Flores solitarii ochroleuci labello albo.

2. Brassavola tuberculata. *Hooker in Bot. Mag. t.* 2878.

B. labello oblongo cuspidato integerrimo, sepalis pedunculo ovarioque tuberculatis, dentibus clinandrii fimbriatis.

Hab. in *Brazilia* ad Rio Janeiro; Hooker, *Forbes.* (*v. v. c. et hab. s. sp.*)

Folia sæpiùs tribus sulcis exarata. Sepala rubro-fusco maculata. Petala et labellum alba. Flores inodori.

Dr. Hooker's figure in the Botanical Magazine is excellent, and particularly well represents the rare circumstance of a few additional minute pollen masses being found with the usual ones. I formerly called this Brassavola trinervis, under which name it was distributed by the Horticultural Society.

3. Brassavola nodosa.

B. labello cordato acuminato integerrimo, sepalis petalisque acuminatis brevibus, dentibus lateralibus clinandrii integris posticâ bifidâ.

Epidendrum curassavicum Orchidi affine. *Herm. Parav.* 187. *t.* 187.
Viscum delphinii flore minus, &c. *Sloane Jam.* 1. 251. *t.* 125. *f.* 1.
Epidendrum nodosum. *Linn. Sp. Pl.* 1350. *Jacq. Amer.* 226. *t.* 140. *Swartz Obs.* 328.
Cymbidium nodosum. *Swartz Nov. Act. Ups.* 6. 73. *Willd. no.* 24.

Hab. in sylvis insulæ *Baru*, Jacquin, *Jamaicæ*; Sloane.

Planta pedalis speciosa. Flores sessiles, magni, elegantes, de die ferè inodori, noctu autem odore præditi fragrantissimo, vix ulli cedente, quiddam habente Lilii albi, nectarium (labellum) gerunt niveum, et germen petalaque subflavescentia; *Jacquin.*

4. Brassavola subulifolia.

B. labello integro, sepalis petalisque acuminatissimis, spicâ paucflorâ, foliis longissimis subuliformibus.

Hab. in insula *Nevis; Tobin.* (*v. s. sp. in Herb. Lambert.*)

Caules teretes, graciles, 4-5-unciales, cæspitosi, vaginis membranaceis cinereis arctè vestiti. Folia palmaria et ultrà, angustissima, acuminatissima. Ovarium collo gracillimo longissimo. Flores foliis breviores. Cætera haud bene vidi. Species distinctissima.

LV. LÆLIA.

Sepala explanata, lanceolata, æqualia. Petala majora, paulò difformia, carnosa, explanata. Labellum posticum, 3-partitum, lamellatum, circa columnam convolutum. Columna aptera, carnosa, antice canaliculata. Anthera .... Pollinia 8, caudiculis quatuor elasticis.——Herbæ epiphytæ, rhizomate pseudobolbophoro. Folia carnosa. Scapi terminales, pauci v. multiflori. Flores speciosi, odorati.

Character ex descriptione Llavei; genus videtur proprium, Cattleyæ proximum, labello postico et polliniis 8 diversum. Phajo differt labello postico ecalcarato, foliisque carnosis in pseudobulbos insidentibus. An congener Cattleyæ Domingensis?

1. Lælia grandiflora.

L. foliis lanceolatis, scapo 1-2-floro v. dichotomo, pseudobulbis pyriformibus.

Bletia grandiflora. *Llave Nov. Veg. Descr.* 2.17.

Hab. supra truncos arborum in tota provincia Michuacana *Mexici,* florens Maio et Junio; Vernaculè *Lirio, Flor di Corpus; Itzumaqua* inter Michuacanos; Llave.

Folia bina aut terna. Bracteæ membranaceæ, amplexicaules. Flos purpurinus, spithamæus, paululùm odoratus. Sepala lanceolata. Petala ovata, majora, carnosa, venosa, lateraliter emarginata. Labellum purpureo-violaceum, ad basin et medium albicans, profundè 3-partitum; laciniâ intermediâ maximâ, emarginatâ, subcrenatâ, limbo undulato purpurascente, prominentiis variis petaloideis lutescentibus sulcatâ, punctis coloratis diversimodè maculatâ. *Llave.*

2. Lælia autumnalis.

L. foliis oblongo-lanceolatis carinatis arcuatis, scapo elongato multifloro, pseudobulbis turbinatis sulcatis.

Bletia autumnalis. *Llave Nov. Veg. Descr.* 2. 19.

Hab. in montibus Vallisoleto *Mexici* urbi vicinis, florens autumno. Vernaculè *Flor de los Santos;* Llave.

Pseudobulbi bipollicares. Folia bina aut terna. Scapus tripedalis, purpurascens, bracteis membranaceis cinctus. Flores fragrantissimi, duplò minores quam in præcedente. *Llave.*

An Cattleya Domingensis, cujus pollinia et folia ignota, huc referenda?

LVI. CATTLEYA.

Cattleya. *Lindl. Coll. Bot. tab.* 33.

Sepala membranacea v. carnosa, patentia, æqualia. Petala sæpiùs majora. Labellum cucullatum, columnam involvens, trilobum v. indivisum. Columna clavata, elongata, semiteres, marginata, cum labello articulata. Anthera carnosa, 4-locularis, septorum marginibus membranaceis. Pollinia 4, caudiculis totidem replicatis.——Herbæ epiphytæ, (Americanæ) pseudobulbosæ. Folia solitaria v. bina coriacea. Flores terminales, speciosissimi, sæpè e spatha magna erumpentes.

This genus passes into Broughtonia through C. Domingensis.

1. Cattleya crispa. *Lindl.*

C. sepalis lineari-obovato-lanceolatis acutis, petalis latioribus oblongo-lanceolatis undulatis crispis, labelli indivisi limbo ovato acuminato quam maximè undulato-crispato, pseudobulbis subcylindraceis angulatis, spathâ magnâ foliaceâ.

Cattleya crispa. *Bot. Reg. t.* 1172.

Hab. in *Brazilia*; (*v. v. c.*)

Flores maximi albi puri, labelli disco tantum purpureo.

2. Cattleya labiata. *Lindl.*

C. sepalis linearibus, petalis membranaceis lato-lanceolatis acutis subundulatis, labello obovato undulato obtuso indiviso, pseudobulbis oblongis angulatis, spathâ maximâ foliaceâ.

Cattleya labiata. *Coll. Bot. tab.* 33. *Hooker Exot. Fl.* 157.

Hab. in *Brazilia*; *Swainson.* (*v. v. cult.*)

Flores maximi lilacini, disco labelli sanguineo.

3. Cattleya Grahami.

C. sepalis lanceolatis acutis, petalis oblongo-lanceolatis obtusiusculis undulatis triplò latioribus membranaceis, labelli trilobi marginibus edentulis: lobo medio maximo plano subrotundo.

Hab. in *Mexico*; *Dom. Graham.* (*hab. florem singulum comm. cel. Grahamio.*)

Species spectatissima cujus flores tantum noti verosimiliter violacei, concolores, magnitudine C. labiatæ.

4. Cattleya maxima.

C. sepalis lineari-lanceolatis obtusis, petalis oblongo-lanceolatis acutis undulatis triplò latioribus membranaceis, labelli oblongi trilobi lobo medio oblongo undulato altè emarginato.

Hab. in *Huayaquil*; *Ruiz et Pavon.* (*exam. s. sp. in Herb. Lambert.*)

Flores maximi, verosimiliter violacei, expansione 7 unciarum ab apice sepali posterioris ad emarginationem labelli. C. Grahami affinis: differt forma lobi medii corollæ, nec non floribus ferè duplò majoribus. Folium oblongum, angustum, carnosum, utrinque obtusum.

5. Cattleya Loddigesii. *Lindl.*

C. sepalis lineari-oblongis petalis oblongis obtusis membranaceis paulò angustioribus, labelli trilobi lobis denticulatis: intermedio transverso undulato, pseudobulbis angustis cylindraceis, spathâ magnâ foliaceâ.

Epidendrum violaceum. *Loddiges Bot. Cab. t.* 337.
Cattleya Loddigesii. *Coll. Bot. tab.* 37.

Hab. in *Brazilia.* (*v. v. c.*)

Flores lilacini, labello pallidiore, apice albido, maculâ nullâ disci, per axia 5-striato.

6. CATTLEYA intermedia. *Graham.*

C. sepalis petalisque lineari-oblongis obtusiusculis subæqualibus, labelli trilobi lobis denticulatis : intermedio cordato rotundato in disco maculato, pseudobulbis clavatis compressis, spathâ herbaceâ.

Cattleya intermedia. *Graham in Bot. Mag. t.* 2851.

Hab. in *Brazilia* ; *Prof. Graham.*

Flores lilacini, labello pallidiore in disco sanguineo.

I adopt this species in deference to the opinion of Drs. Graham and Hooker, not having had an opportunity of seeing the plant myself. From the beautiful figure of the latter, it appears to differ from C. Loddigesii in nothing but having the middle lobe of the lip rounder, and the disk stained with purple. No dependence is to be placed upon the proportion between the length of the scape and the peduncle ; that character being very much affected by the degree of vigour of the individual.

7. CATTLEYA Forbesii. *Lindl.*

C. sepalis petalisque subundulatis lineari-lanceolatis subæqualibus, labelli trilobi lobo medio cordato subrotundo-ovato argutè dentato undulato apiculato : lateralibus minoribus rotundatis planis, pseudobulbis cylindraceis cinereis vestitis, spathâ cylindraceâ membranaceâ pedunculo breviore.

Cattleya Forbesii. *Coll. Bot. t.* 37. *in textu.* *Bot. Reg. t.* 953.

Hab. in *Brazilia* prope Sebastianopolim ; *Forbes.* (*v. v. cult.*)

Sepala et petala viridi-lutea. Labellum album intùs luteum rubro venosum et punctatum ; per axin lineis duabus elevatis.

8. CATTLEYA citrina.

C. floribus carnosis pendulis, sepalis ovatis, petalis angustioribus emarginatis crenulatis, labelli trilobi lobo intermedio undulato emarginato, pseudobulbis turbinatis.

" Corticoatzontecoxochitl. *Hernand. Mex.* 1. *p.* 240."
Sobralia citrina. *Llave Nov. Veg. Descr.* 2. 21.

Hab. supra arbores in montibus Vallisoleto, urbi *Mexici,* proximis, florens Maio et Aprili ; vernaculè *Tatzingueni* ; Llave.

Folia glaucescentia. Flores bini v. solitarii, citrini, odoratissimi, concolores ; labelli lobo medio venoso.

9. CATTLEYA elatior.

C. sepalis petalisque oblongis æqualibus acutis, labelli trilobi lobis lateralibus rotundatis : intermedio plano cuneato unguiculato apice bilobo.

Hab. in *Brazilia.* (*v. v. cult.*)

Caules cæteris elatiores. Flores magnitudine C. Forbesii. Sepala luteo-rosea. Petala rosea. Labellum lobis lateralibus albis, intermedio roseo ; axis elevatus, carnosus, 7 striatus.

10. Cattleya guttata. *Lindl.*

C. floribus carnosis, sepalis lineari-oblongis obtusis, petalis conformibus paulò latioribus undulatis, labelli trilobi lobis lateralibus ovatis obtusis: intermedio cuneato obcordato disco tuberculato, foliis concavis, spathâ obsoletâ. *Bot. Reg. fol.* 1406.

Hab. in *Brazilia.* (*v. v. cult.*)

Flores pallidè virides sanguineo guttati. Labelli lobi laterales albi, intermedius purpureus, lineis disci purpurei tuberculatis. C. elatiori affinis.

11. Cattleya Domingensis.

C. sepalis lineari-lanceolatis acutis petalis oblongis obtusiusculis triplò angustioribus, labello indiviso obovato obtuso plicato-crispo, scapo tereti squamoso apice racemoso multifloro basi bulboso.

Hab. supra arbores in insula *St. Domingo; Mackenzie.* (*hab. s. spont. comm. cel. Mackenzie.*)

Folia ignota. Flores verosimiliter violacei, in genere minores, membranacei. Scapus bipedalis, teres. Facies Broughtoniæ sed character Cattleyæ.

LVII. BROUGHTONIA.

Broughtonia. *R. Brown in Hort. Kew. ed.* 2. 5. 217.

Sepala angusta, patentia, lateralia basi obliqua, cum labelli basi connata et decurrentia. Petala latiora. Labellum indivisum, ascendens, basi columnæ adnatum, in calcare lineari, mellifluo, ovario connato decurrens. Columna brevis, crassa, apice dilatata. Anthera 4-locularis, septorum marginibus membranaceis. Pollinia 4, caudiculis replicatis.——Herba epiphyta, pseudobulbosa, foliis carnosis, scapo terminali multifloro.

This genus differs essentially from Cattleya not only in its habit, but also in the presence of a spur adhering to the ovarium, and to the decurrent front edge of the lateral sepals. It is true that the presence or absence of such a spur is accounted of no importance in Epidendrum, but in that genus it is unattended by other characters either of structure or habit.

Mr. Brown seems to be acquainted with other species of Broughtonia, but as I am in possession of no other than B. sanguinea I have not thought it advisable to retain his specific diagnosis. Tetramicra, which agrees with Broughtonia in its cuniculate ovarium, is I think essentially distinct.

1. Broughtonia sanguinea. *R. Br.*

Viscum radice bulbosâ minus, &c. *Sloane Jam.* 119. *Hist.* 1. 250. *t.* 121. *f.* 2.
Satyrium parasiticum, &c. *Brown Jam.* 324.
Epidendrum sanguineum. *Swartz Prodr.* 124.
Dendrobium sanguineum. *Swartz Fl. Ind. Occ.* 1529. *Willd. no.* 3.
Broughtonia sanguinea. *R. Br. l. c. Loddiges Bot. Cab. t.* 793.

Hab. non procul a litoribus Oceani *Jamaicam* alluentis, in arboribus vetustis Bombacis, Rhizophoræ, Conocarpi, &c.; Swartz. (*v. v. c.*)

Pseudobulbi aggregati, ovati, compressi, nitidi. Scapus terminalis pedalis et ultrà, racemosus. Flores toti purpureo-sanguinei. Pollinia alba. Labellum subrotundum, cordatum, truncatum, margine erosum, basi luteum, venis purpureis pictum.

LVIII. TETRAMICRA.

Sepala et petala lineari-oblonga, patentia, subæqualia. Labellum explanatum, tripartitum, cum columna parallelum, laciniâ intermediâ subunguiculatâ disco lineatâ; calcare ovario connato. Columna alata, in labellum prona. Anthera 8-locularis, loculis 4 minoribus. Pollinia 8, quorum 4 minima, per caudiculas quatuor cohærentia.——Scapus longus, teres, squamosus, apice racemosus. Folia brevia, linearia, carnosa, recurva.

Spathoglotti et Bletiæ valdè affinis; priore differt labelli lobo medio basi non tuberculato, secundo labello tripartito explanato, ambobus foliis carnosis nec plicatis, et polliniis 4 subobsoletis. Broughtonia distinguitur antherâ 4-loculari, dissepimentis membranaceo-marginatis, polliniis 4, et collo ovarii valdè elongato.

1. Tetramicra rigida.

Cymbidium rigidum. *Willd. no.* 48.
Helleborine foliis rigidis angustis. *Plum. Sp.* 9. *ic.* 181. *f.* 1.

Hab. in *Hispaniola;* Dom. *Mackenzie.* (*hab. s. sp.*)

Scapus gracilis, erectus, bipedalis. Folia 4-uncialia. Labelli laciniæ laterales oblongæ rotundatæ; intermedia angustior, spatulata, rotundata, lineata.

LIX. SPATHOGLOTTIS.

Spathoglottis. *Blume Bijdr.* 400. *tabellen* 76.

Sepala patentia, libera, æqualia. Petala paulò latiora magisque membranacea, patentia v. conniventia. Labellum cum basi columnæ articulatum, nunc saccatum, tripartitum, laciniâ intermediâ unguiculatâ basi tuberculatâ v. cristatâ sæpiùs utrinque unidentatâ. Columna alata v. petaloidea. Anthera bilocularis. Pollinia 8.——Herbæ Asiaticæ, terrestres, cormis subterraneis, foliis ensiformibus plicatis. Flores verosimiliter lutescentes.

This genus is distinguished from Bletia by the middle segment of the deeply three parted lip being unguiculate with two tubercles or lamellæ at its base, and by its two-celled anther.

1. Spathoglottis plicata. *Blume.*

S. racemo multifloro, bracteis petaloideis lanceolatis coloratis, sepalis ovatis acutis patentibus, petalis oblongis obtusis conniventibus, labelli laciniis lateralibus cuneato-oblongis truncatis: intermediâ unguiculatâ cuneatâ retusâ basi bituberculatâ utrinque unidentatâ.

Spathoglottis plicata. *Blume Bijdr. p.* 401. *tab.* 76.
Bletia angustata. *Gaudich. Voy. p.* 421. *tab.* 32.

Hab. in locis sylvaticis insulæ *Javæ,* Blume; in *Penang, Wallich;* in *Luzonibus,* Gaudichaud. (*hab. s. sp. e Museo Anglo-Indico.*)

Folia plura, ensiformia, plicata. Scapus nunc bipedalis, multifloris, nunc sesquipedalis 2-florus. Labellum ad axillas tuberculorum pilosum. Sepala, petala, et bracteæ post anthesin grandescunt. Columna elongata, semiteres, apice inflexa.

2. Spathoglottis pubescens. *Lindl. in Wall. Cat. Herb. Ind. no.* 3744.

S. foliis binis lineari-lanceolatis basi angustatis striatis scapo erecto longioribus, racemo secundo, bracteis minutis acutis, sepalis ovatis acutis, petalis oblongis obtusis, labelli basi saccati laciniis lateralibus oblongis erectis: intermediâ tricarinatâ basi bituberculatâ cuneatâ parum longiore, pedunculis sepalis ovariisque pubescentibus.

Hab. in *Prome*, monte *Taong Dong* et alpibus *Sillet*; *Wallich.* (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Tuber nucis avellanæ magnitudine, subdepressus. Folia bina, lineari-lanceolata, utrinque acuminata, scapo breviora. Scapus radicalis, ascendens, pubescens, sesquipedalis, squamis paucis distantibus obtusis vaginatus. Racemus 2-8-florus, secundus. Flores sordidè lutei. Labellum basi subviolaceum.

3. Spathoglottis ixioides. *Lindl. in Wall. Cat. Herb. Ind. no.* 3745.

S. foliis binis lineari-lanceolatis basi angustatis scapi unibiflori longitudine, bracteis vaginantibus obtusis, sepalis ovatis acutis petalisque oblongis undulatis patentibus, labelli ventricosi saccati laciniis lateralibus erectis apice angustatis obtusis: intermediâ minore cuneatâ basi bidentatâ ungue bilamellatâ.

Cymbidium ixioides. *Don Prodr. Nep.* 36.

Hab. in *Gossain Than*; *Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Cormi pisi magnitudine. Scapus 3-4-uncialis. Flores diametro unciali. Columna petaloidea. Lamellæ labelli utrinque pilosæ.

4. Spathoglottis ? trivalvis. *Lindl. in Wall. Cat. Herb. Ind. no.* 3742.

Hab. ad *Singapur*; *Wallich.* (*hab. s. sp. defloratum e Museo Anglo-Indico.*)

Species vix nota, huc ex autoritate cl. Wallichii relata. Flores ignoti, racemosi. Capsula fabæ equinæ magnitudine, 3-valvis, valvis oblongis intermediis nullis. Folia bina, linearia, obtusa, scapo subramoso erecto multò breviora.

LX. BLETIA.

Bletia. *Fl. Peruv. Syst.* 229. Gyas. *Salisbury in Act. Hort. Soc.* 1. 261.

Sepala patentia, æqualia. Petala nunc patentia, nunc conniventia, sepalis subæqualia. Labellum cucullatum, cum columna articulatum, nunc basi saccatum, trilobum, disco sæpiùs lamellato v. tuberculato. Columna elongata, semiteres. Anthera carnosa, 8-locularis. Pollinia 8, æqualia, caudiculis 4 pulvereis cohærentia.——Herbæ subterrestres, foliis ensiformibus plicatis, scapis racemosis multifloris, floribus sæpiùs speciosis. *Lindl. in Bot. Reg.* 1401.

Phajo differt labello ecalcarato, cum labello articulato, sæpiùs trilobo, et habitu peculiari; Spathoglotti accedit per Bletiam coccineam.

1. Bletia catenulata. *Fl. Per.*

B. sepalis oblongo-lanceolatis, petalisque ovato-lanceolatis patentibus, labelli cucullati lobis lateralibus rotundatis abbreviatis: intermedio subrotundo emarginato convexo unguiculato, foliis lanceolatis.

Bletia. *Fl. Peruv. Prodr. t.* 26. —— catenulata. *Fl. Peruv. Syst. p.* 229.

Hab. in montibus et runcationibus Pozuzo, et Chaclla, versus St. Domingo et Llamapañaui *Peruviæ* tractus; *Ruiz et Pavon.* (*adest in Herb. Lambert.*)

Characterem ad iconem Floræ Peruvianæ et exemplar defoliatum innominatum in herbario Lambertiano confeci; an rectè? Icon exemplari satis respondet, et exemplar diagnosi Floræ Peruvianæ.

2. Bletia florida. *R. Br. Hort. Kew. ed.* 2. 5. 206.

B. sepalis ovali-lanceolatis obtusiusculis subpatentibus, petalis latioribus obtusis supra columnam fornicatis, labelli disco costis quinque rectis indivisis: lobis lateralibus rotundatis abbreviatis, intermedio cuneato crispo lamellis tribus undulatis apice abruptis, scapo simplici radicali, foliis ensiformibus. *Lindl. Bot. Reg. t.* 1401.

Cymbidium floridum. *Salisb. Prodr.* 9.
Gyas florida. *Salisb. in Act. Soc. Hort.* 1. 261.
Bletia pallida. *Lodd. Bot. Cab. t.* 629.

Hab. in *Trinidad*; Loddiges. (*v. v. c.*)

Flores pallidè carnei.

In the Botanical Register I have pointed out the differences between this and B. verecunda, and also explained my reasons for rejecting the synonym of Redouté quoted by Mr. Brown, and for considering B. pallida as the real B. florida.

3. Bletia verecunda. *R. Br. in Hort. Kew.* 5. 206.

B. sepalis ovatis acutis subpatentibus, petalis oblongis obtusis supra columnam fornicatis, labelli lobo medio latiore quam longo undulato: disci costis plurimis crispis nunc ramosis, scapo radicali ramoso, foliis ensiformibus.

Helleborine radice arundinaceâ, foliis plicatis. *Plum. Sp.* 9. *ic.* 189.
Helleborine Americana, &c. *Mart. Cent. t.* 50. *Mill. ic.* 145.
Limodorum altum. *Linn. Syst. Veg.* 680. *Jacq. Ic. Rar.* 3. *t.* 602. *Swartz Obs.* 323. *Bot. Mag.* 930.
Limodorum verecundum. *Salisb. Prodr.* 9.
Limodorum tuberosum. *Jacq. Coll.* 4. 108.
Limodorum trifidum. *Mich. Amer.* 159.
Cymbidium verecundum. *Swartz Nov. Act.* 6. 75. *Willd. no.* 43.
Cymbidium altum. *Willd. no.* 44. *Pers. Syn.* 2. 516.
Limodorum purpureum. *Redout. Lil.* 83.
Gyas verecunda. *Salisb. in Act. Soc. Hort.* 1. 261.

Hab. in *India Occidentali.* (*hab. s. c. et v. v. c.*)

Sepala purpurea extùs pallidiora. Petala purpurea. Labelli purpurei costæ luteæ nunc ramosæ, nunc omninò simplices, margo pallidior. Pollinia vix cereacea, potius cereaceo-pulverea.

The character of the ribs of the disk of the labellum being branched in this species, as stated by Mr. Brown in the Hortus Kewensis, is inconstant.

With regard to the union of Cymbidium altum with Cymbidium verecundum; the former was introduced by Willdenow upon the supposition that its labellum was destitute of ribs, and that the figure given by J. Burmann in his edition of Plumier was a faithful one at least in general character. It is however evident from Plumier's drawings, of which I have examined copies in Mr. Lambert's Herbarium, that Burmann's figure is execrable, and that the plant discovered by Plumier is in no respect different from Cymbidium verecundum.

Another blunder has been committed by the same Burmann and copied without comment by others, which is of less importance, but rather

more curious. He makes Plumier call the ensiform leaves of this species *lyrate!* In the collection of Plumier there are two drawings, one of the natural size, the other reduced; on one of them is written *foliis licatis*, an obvious clerical error for *plicatis*; on the other *foliis liratis*, a further mistake of the same nature.

4. Bletia hyacinthina. *R. Br.*

B. sepalis petalisque lineari-oblongis patentibus, labello cucullato medio lamellato: laciniis crispis intermediâ emarginatâ, bracteis subpetaloideis, racemo simplici paucifloro terminali foliis ensiformibus æquali v. parum longiore.

Limodorum striatum. *Thunb. Jap.* 28. *Ic. Pl. Jap. t.* 9.
Epidendrum striatum. *Thunb. Act. Soc. Linn.* 2. 327.
Cymbidium striatum. *Swartz Nov. Act.* 6. 77. *Willd. no.* 60.
Cymbidium hyacinthinum. *Smith Exot. Bot.* 1. *t.* 60. *Bot. Mag.* 1492.
Gyas humilis. *Salisb. in Hort. Trans.* 1. 261.
Bletia hyacinthina. *Brown. in Hort. Kew.* 5. 206.

Hab. in *China*, et *Japonia*; Thunb. (*hab. s. cult. v. v. c. et s. sp. in Herb. Lamb.*)

Scapus foliosus. Flores rosei, concolores. Bracteæ roseæ, margine virescentes.

In the Hortus Kewensis the labellum is called imberbe; it is however distinctly lamellate. There can be no doubt of Thunberg's synonym; but his figure is very bad; Japanese specimens in Mr. Lambert's Herbarium establish the fact beyond controversy.

5. Bletia speciosa. *Kunth.*

B. scapo radicali subunifloro, sepalis lanceolatis reticulatis patulis, petalis paulò majoribus oblongis obtusis crenulatis, labelli trilobi lobo medio subrotundo-ovato obtuso crenulato, foliis lineari-oblongis, pseudobulbis oblongis.

Bletia speciosa. *Humb. Bonpl. et Kunth. Nov. Gen. et Sp.* 1. 342. *Synopsis* 1. 330.

Hab. in locis calidis regni *Mexicani* juxta littus Oceani Pacifici inter portum Acapulci et Playas de Coyuca, florens Februario; Humboldt.

Herba parasitica. Folia striata, tripollicaria, dimidium pollicem lata, vaginantia. Scapus sexpollicaris, glaber. Calyx violaceus? glaberrimus; sepala subtripollicaria; labelli lobus medius sesquipollicaris; *ex Kunthio.*

6. Bletia campanulata. *Llave.*

B. sepalis petalisque lanceolatis subæqualibus campanulatis, labelli laciniis lateralibus convolutis: intermediâ planâ appendicibus petaloideis longitudinaliter sulcatâ; limbo undulato, foliis ensiformibus.

"Tzacucochitl, *seu florida* Tzautli. *Hernandez Mexic. v.* 1. *p.* 238. *ed Madrit.*"
Bletia campanulata. *Llave Nov. Veg. Desc.* 2. 17.

Hab. prope Vallisoletum urbem *Mexici*, versus Irapæum et Acuitzium, florens Augusto; Llave.

Planta pedalis, gracillima. Flores purpureo-violacei; petala albicantia; labellum albo-violaceum; *ex Llave.*

7. Bletia coccinea. *Llave.*

B. sepalis petalisque subæqualibus, labelli tripartiti laciniis lateralibus convolutis: intermediâ pendulâ profundè emarginata: costis tribus petaloideis, foliis binis ensiformibus scapo tereti brevioribus.

" Tonaloxochitl, sive Tzacuxochitl altera. *Hernand. Mexic. v.* 1. *p.* 239. *ed. Madrit.*"
Bletia coccinea. *Llave Nov. Veg. Descr.* 2. 16.

Hab. rarissimè juxta Ttzitzium, prope Vallisoletum, urbem *Mexici*, supra radices arborum, florens Augusto; Llave. (*adest in Herb. Lambertiano.*)

Bracteæ breves acuminatæ. Flores dilutè coccinei, velutini; *ex Llave.*

Obs. Costæ disci labelli ad basin lobi intermedii abruptè prominent; hinc Spathoglottis faciem quodammodo induit.

8. Bletia punctata. *Llave.*

B. sepalis petalisque subæqualibus cuneiformibus, labelli trilobi laciniâ intermediâ latiore: limbo undulato, foliis lato-lanceolatis scapo brevioribus.

Bletia punctata. *Llave Nov. Veg. Descr.* 2. 15.

Hab. supra arborum radices, in montibus Irapæi, *Mexici*, florens a Junio ad Augustum; Llave.

Sepala et petala ferrugineo-virescentia, punctis purpureis variegata. Labellum luteum eodem modo punctatum. Columna lineis rubris maculata. Scapus tripedalis, ferrugineus, punctis rubris maculatus; *ex Llave.*

9. Bletia capitata. *R. Br.*

B. "labello prope basin intus callo adnato, caule folioso, floribus capitatis." *R. Br. in Hort. Kew.* 5. 206.

Hab. in *India Occidentali*; R. Brown.

10. Bletia obcordata.

B. caulescens, sepalis petalisque linearibus æqualibus obtusis, labelli trilobi patuli lobis lateralibus abbreviatis rotundatis: intermedio obcordato, scapo laterali multifloro racemoso, foliis oblongo-lanceolatis acuminatis.

Hab. in *Sillet*; *Wallich.* (*v. ic. pict.*)

Caulis erectus pedalis. Folia 6 uncias longa, sesquiunciam lata, subquinquenervia. Scapus foliis demissior, pedalis, basi squamis quibusdam laxis obtusis vaginatus. Flores parvi, longipedunculati, ochracei, pedicellis capillaribus. Labellum rubro leviter venosum.

11. Bletia tuberculosa. *Spreng. Syst.* 3. 744.

B. sepalis ovato-lanceolatis acutis petalisque lineari-lanceolatis patentibus, labelli cucullati ventricosi apice trilobi laciniis crispis: intermediâ majore transversâ emarginatâ basi trituberculatâ, foliis ....

Limodorum tuberculosum. *Thouars tab.* 31.

Hab. in *Madagascar*; Thouars.

Flores purpureo-lutei; *Thouars.*

12. Bletia villosa. *Ach. Rich. Orch. Maur. p.* 42.

B. sepalis petalisque angustioribus ovato-lanceolatis acutis patentibus, labello integerrimo subcordato undulato acuminato medio villoso, foliis ellipticis acutis.

Limodorum villosum. *Thouars tab.* 32.

Hab. in *Mauritio*; Thouars.

Flores purpurascentes; labellum concavum, non cucullatum; columna libera. An omninò congener, cum differt labello integerrimo non cucullato?

13. Bletia aphylla. *Nuttall Genera* 2. 194.

B. aphylla, labello trifido costato, scapo racemoso squamoso.

Hab. in *Carolina*, et *Florida*; Nuttall.

Species singularis Nuttallio tantum descripta, qui characterem ferè nullum peculiarem demonstravit, nisi foliorum absentiam.

14. Bletia latifolia. *Gaudich. Voyage p.* 421.

B. "foliis lineari-lanceolatis striato-multinerviis (9-15) membranaceis planis scapum subæquantibus, scapo elongato simplici erecto multifloro." *Gaudich.*

Hab. in insulis *Moluccis* (Rawak) ad terram; Gaudichaud.

An potius Spathoglottis?

Nota. Adsunt præterea in Systemate Floræ Peruvianæ et Chilensis species quatuor, imperitissimè notatæ, quarum duæ auctoribus illius operis tantum ex iconibus Tafallæ innotuêre. Has omnes prætermitto, prout mera scientiæ ænigmata.

LXI. IPSEA.

Sepala pubescentia, explanata, æqualia, lateralibus basi obliquis cum pede columnæ connatis saccum mentientibus. Petala subæqualia. Labellum concavum, trilobum, lamellatum, columnâ parallelum, sed nullo modo convolutum, ungue brevi saccato cum basi producta columnæ articulato. Columna elongata, semiteres, subclavata. Anthera membranacea, bilocularis, tuberculis duobus carnosis intus ad basin. Pollinia 8, quorum 4 minora, caudiculis pulvereis colligata.——Herba terrestris, radice carnosâ subbilobâ, lateralibus fibrosis. Folia serotina, ensiformia, plicata. Scapus simplex, vaginatus. Flos solitarius, speciosus, terminalis.

Genus notatu dignissimum ob radices carnosas bilobas Orchidis cujusdam ad instar, charactere insolito inter Orchideas polline cereaceo donatas, et inter Epidendreas planè ignoto, nisi fortè in Apaturia cujus radices nondum visæ sunt. Ab hoc genere, præter habitum, differt sepalis explanatis, lateralibus basi obliquis cum pede columnæ connatis. Bletia distinguitur labello convoluto, anthera 2-nec 8-loculari, nec non sepalis lateralibus æquilateris.

1. Ipsea speciosa.

Hab. in montibus *Zeylonæ*, in apricis, rarissimè, florens Novembri; *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Radix media nucis castaneæ magnitudine, succulenta, inæqualiter biloba, gemmâ solitariâ in summo; laterales fibrosæ, succulentæ, Orchidis cujusdam ad instar. Folia bina, basi vaginata, angustè ensiformia, palmaria. Scapus pedalis v. sesquipedalis, purpureus, pubescens, vaginis quibusdam apice sub-foliaceis tomentosis. Flores sæpiùs solitarii,

nunc gemini, speciosi, lutei, unicolores, odoratissimi. Sepala pubescentia, ferè duas uncias longa, oblonga, lateralibus basi obliquis cum basi columnæ producta connatis. Petala paulò angustiora, obtusa. Labelli lacinia media oblonga, obtusa, lamellis 5 distantibus, laterales latæ, acutæ. Ovarium et columna pubescentes. Anthera villosa.

LXII. ARUNDINA.

Arundina. *Blume Bijdr. p.* 401. *tabellen* 73.

Sepala lineari-lanceolata, æqualia, basibus paululùm connatis, patula. Labellum circa columnam convolutum, cum ea non articulatum, trilobum v. integrum, medio cristatum v. lineis quibusdam elevatis. Columna recta, cum labello parallela, semiteres, clavata. Anthera 4-locularis. Pollinia 8, æqualia.——Herbæ caulescentes, terrestres, foliis distichis ensiformibus plicatis. Flores purpurei, speciosi.

Phajo differt præcipuè labello ecalcarato omninò libero, antherâ 4-loculari, columnâ basi non productâ, et foliis distichis.

1. Arundina bambusifolia. *Lindl. in Wall. Cat. Herb. Ind. no.* 3751.

A. labello intus lamellis duabus carnosis undulatis cristatis et alterâ rectâ intermediâ breviore: lobis lateralibus abbreviatis integris subobsoletis, intermedio bilobo laciniis divaricatis crispis, petalis lanceolatis, foliis acuminatis.

Cymbidium bambusifolium. *Roxb. Hort. Beng.* 63.
Bletia graminifolia. *Don. Prodr. Fl. Nep.* 29.

Hab. in *Napalia, Sillet,* et *Chittagong, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Caulis verosimiliter 2-3-pedalis Bambusæ facie. Folia ensiformia, acuminata, patentia, pedem longa, 6 lineas lata. Racemus multiflorus, foliis longior, subramosus. Bracteæ ovatæ, acutæ, cucullatæ. Flores speciosi. Labellum unciam et dimidiam longum.

2. Arundina minor.

A. labello intus lineis 3-5-elevatis integro apice obtuso undulato, petalis sepalis parum latioribus, foliis apice abruptè acutis.

Hab. ad ripas fluvii Mahawelli Ganga in *Zeylona, Macrae.* (*hab. s. sp. et ic. pict.*)

Herba terrestris, pedalis, caule simplici, stricto, basi in cormum dilatato. Folia 3 uncias longa, $2\frac{1}{2}$ lineas lata, apice triangularia acuta. Racemus pauciflorus foliis elatior. Bracteæ ovatæ, acutæ, cucullatæ. Petala et sepala lanceolata rosea. Labellum luteum, liberum, circa columnam convolutum, apice roseum.

3. Arundina Chinensis. *Blume Bijdr. p.* 402.

A. " labello intus lineis 5 nudis cristato, limbi lobo medio rotundato." *Blume.*

Hab. in Java, fortè e *China* introducta, Blume; propè *Macao,* Rev. G. H. *Vachell.* (*hab. s. sp. comm. cel. Henslow.*)

Folia strictissima, acuta, superiora 7 uncias longa 3 lineas lata. Racemus terminalis, folia vix excedens, subsexflorus. Bracteæ rigidæ, ovatæ, cucullatæ. Flores circa 15 lineas a basi ad apicem longi, speciosi.

Sepala lineari-oblonga, obtusa. Petala duplò latiora, et paulò longiora, oblonga, utrinque angustata. Labellum magnum, ventricosum, lobis lateralibus maximis rotundatis undulatis intermedio rotundato bipartito. Talia video in exemplare Chinensi. An species Blumii omninò eadem?

I have some doubt whether the Chinese species now described is the same as Blume's Arundina Chinensis. Of the peculiarities comprehended in his very brief diagnosis, one, the nature of the lines upon the disk of the labellum, cannot be ascertained in my specimens, and the other, the rounded form of the middle lobe of the limb, although in accordance with that of the plant before me, nevertheless not being connected with a reference to the bipartite state of the same part, can by no means be said to be exactly recognized. I am however unwilling to create a new species out of materials so imperfect as mine.

4. Arundina speciosa. *Blume Bijdr. p.* 401. *t.* 73.

A. labello intus lineis 3 barbatis cristato, lobis integris subundulatis apice angustatis, intermedio multò longiore: ungue lato plicato, limbo latiore quam longo rotundato emarginato undulato, petalis lanceolatis.

Hab. in lapidosis provinciarum Buitenzorg, Tjanjor, Krawang, &c. insulæ *Javæ,* Blume.

LXIII. PHAJUS.

Phajus. *Loureir. Fl. Cochinch.* 2. 529. Pachyne. *Salisb. in Act. Soc. Hort.* 1. 261.

Sepala et petala subæqualia, patentia, libera. Labellum sæpiùs cucullatum, cum basi columnæ adnatum, calcaratum, integrum v. trilobum, sæpiùs suprà carinatum lamellosum v. cristatum. Columna erecta, cum ovario continua, semiteres, marginata, elongata. Anthera 8-locularis. Pollinia 8, subæqualia.——Herbæ terrestres, (Asiaticæ) caulescentes v. acaules, foliis latis plicatis. Scapi radicales. Flores speciosi.

From Bletia this genus is distinguished by the labellum being constantly connate with the base of the column and spurred, while in Bletia the labellum is constantly articulated with the column and never spurred.

1. Phajus grandifolius. *Loureiro.*

P. acaulis, foliis oblongo-lanceolatis acutis, sepalis petalisque oblongo-lanceolatis intùs discoloribus, labello oblongo cucullato integro crispo apice emarginato, calcare arcuato emarginato.

Phajus grandifolius. *Lour. Fl. Cochinch.*
Limodorum Tankervilliæ. *Hort. Kew. ed.* 1. 3. *t.* 12. *Willd. no.* 1.
Limodorum Incarvillei. *Pers. Syn.* 2. 520.
Pachyne spectabilis. *Salisb. in Hort. Trans.* 1. 261.
Bletia Tankervilliæ. *R. Br. in Hort. Kew. ed.* 2. 5. 207. *Bot. Mag.* 1924. *Illustrations of Orchideous plants, passim.*

Hab. in *China.* (*v. v. c.*)

Flores albi intùs fusci. Labellum album intùs aureo rubroque varium, supra bicarinatum.

2. Phajus Wallichii.

P. acaulis, foliis oblongo-lanceolatis acutis, sepalis petalisque lanceolatis labelloque cucullato crispo integro acuminatissimis, calcare arcuato emarginata, bracteis acuminatis. *Lindl. in Wall. Pl. As. Rar. vol.* 2. *p.* 46. *tab.* 158.

Phaius grandifolius. *Lindl. in Wall. Cat. Herb. Ind. no.* 3747 *nec Lour.*

Hab. in *Sillet, Wallich.* (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Facies omninò P. grandifolii cum quo malè confudi. Sepala extùs nivea intùs fusca. Petala intùs fusca, extùs minùs nivea. Labellum album, intùs pallido flavo et rubore paululùm suffusum.

In Dr. Wallich's Catalogue I committed what I now believe to have been an error, in referring this to the Phaius grandifolius of Loureiro. In general appearance it bears much resemblance to it, but upon more full consideration I have come to the conclusion that the Sillet plant is to be distinguished by its very acuminate bracteæ, sepals and petals, and also by the labellum not only having a point gradually tapering into a long point, as in Brassavola nodosa, but being also destitute of the rich yellow and red marking of the Chinese species.

3. Phajus Blumei.

P. " sepalis acuminatissimis, labello intùs bicristato, limbo semitrilobo, lobo medio maximo undulato, gynostemio subnudo." *Blume Bijdr. p.* 374 sub Limodoro Incarvillei.

Hab. .... Cultus in hortis *Javæ;* Blume.

The above diagnosis applied by Dr. Blume to his Limodorum Incarvillei is so entirely at variance with Phaius grandifolius and with all others here described that I cannot doubt its belonging to a distinct species.

4. Phajus veratrifolius. *Lindl. in Wall. Cat. Herb. Ind. no.* 3746.

P. caulescens, foliis oblongo-lanceolatis acuminatis, sepalis petalisque lineari-oblongis acutiusculis, labello obovato-oblongo crispo integro repando apice emarginato, calcare recto conico obtuso.

Dendrobium veratrifolium. *Roxb. Hort. Beng. p.* 63.

Hab. in *Sillet, Wallich.* (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Pseudobulbi oblongi, nigro-virides. Caulis bipedalis. Folia immaculata. Scapus caule brevior. Bracteæ obovato-lanceolatæ. Sepala et petala pallidè flava. Labellum luteum, non cucullatum, lobis lateralibus obsoletis ab intermedio parvo emarginato vix distinguendis; ergo integrum repandum dicitur.—Obs. Descriptio et diagnosis ab icone Wallichiano, cum exemplaria nimis sint imperfecta ad partes ritè distinguendas.

This must not be confounded with Limodorum veratrifolium of Roxburgh, which is the type of the genus Calanthe.

5. Phajus maculatus. *Lindl. in Wall. Cat. Herb. Ind. no.* 3748.

P. caulescens, foliis ovato-lanceolatis acuminatis maculatis, sepalis petalisque oblongis obtusis, labelli trilobi lobis apice plicato-crenatis: lateralibus rotundatis intermedio ovato obtuso multò minoribus, calcare recto oblongo obtuso.

Bletia flava. *Wall. in Bibl. Anglo-Indica ic.* 1147.
Bletia Woodfordii. *Hooker. Bot. Mag. t.* 2719.

Hab. in *Napalia, Wallich;* nec in insula Trinitatis. (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Caulis bipedalis. Pseudobulbi ovato-oblongi. Scapus radicalis, foliis duplò brevior 10-12-florus. Bracteæ obovatæ. Flores flavi. Labellum ad apices loborum fusco-purpureo marginatum et maculosum. Columna pilosa.

There must have been some mistake on the part of Mr. Aiton, when he communicated this fine plant to Dr. Hooker as a native of Trinidad. The Nipalese specimens in Dr. Wallich's possession are indeed imperfect, but I have been permitted to examine a drawing in the possession of the East India Company, which supplies all deficiencies in the specimens, and which agrees entirely with the figure in the Botanical Magazine. I could not adopt Dr. Hooker's name without perpetuating an error, and that of Dr. Wallich is preoccupied by Dr. Blume; this will I trust be considered a satisfactory explanation of a new specific name having been applied.

6. Phajus bicolor.

P. acaulis, foliis lanceolatis acuminatis, sepalis petalisque (angustioribus) lanceolatis acuminatis, labello cucullato ventricoso integro limbo obtuso cuspidato undulato, axi versus basin lamellis duabus planis, calcare cylindraceo arcuato apice emarginato ovarii longitudine.

Hab. in pascuis siccis ad latera collium *Zeylonæ, Macrae.* (*hab. s. sp. et v. ic. pict.*)

Scapus foliis elatior. Sepala et petala lutea. Labellum roseum calcare luteo.

7. Phajus albus. *Lindl. in Wall. Cat. Herb. Ind. no.* 3749.

P. caulescens, foliis oblongo-lanceolatis acutis subtus glaucis, sepalis petalisque oblongo-lanceolatis acutis subæqualibus, labello oblongo cucullato denticulato apice rotundato: disco 5-cristato, calcare rectiusculo emarginato. *Lindl. in Wallich. Plant. As. Rar. vol.* 2. *t.* 198.

Hab. in *Napalia,* et montibus *Sillet, Wallich.* (*hab. s. sp. e Museo Anglo-Indico et v. ic. pict.*)

Epiphytus. Caulis subbipedalis, foliis inferioribus minoribus, infernis squamæformibus. Racemus terminalis, 3-4-florus, foliis brevior. Bracteæ magnæ, herbaceæ, oblongo-lanceolatæ, concavæ, ferè floribus æquales. Flores albi, speciosi. Labellum ferè 2 uncias et dimidiam longum, disco luteo, venis roseis.

8. Phajus callosus.

P. sepalis petalisque oblongis obtusiusculis subundulatis, labello cucullato trilobo plicato margine crispo: lobis lateralibus rotundatis intermedio bilobo brevioribus, apice bicalloso axi elevato carnoso, calcare recurvo obtuso emarginato, columnâ nudiusculâ.

Limodorum callosum. *Blume Bijdr.* 374. *tab.* 61.

Hab. in montosis *Javæ,* florens ferè per totum annum; Blume.

9. Phajus flavus.

P. "subcaulescens, sepalis obtusis, labello semitrilobo intùs tricristato: lobo medio cristato, gynostemio villosiusculo." *Blume* sub Limodoro.

Limodorum flavum. *Blume Bijdr.* 375.

Hab. in sylvis elatis montis ignivomi Gede insulâ *Javæ*; Blume.

LXIV. CYTHERIS.

Sepala patentia, subæqualia: lateralibus basi calcari adnatis; supremo cum petalis latioribus membranaceis parallelo, recurvo. Labellum posticum

calcaratum, planum, trilobum, disco cristato. Columna brevis, alata, clavata. Anthera membranacea, bilocularis. Pollinia 8, æqualia.——Herba Indica terrestris, foliis planis petiolatis plicatis. Scapus terminalis. Flores minores.

1. Cytheris cordifolia. *Lindl. in Wall. Cat. Herb. Ind. no.* 3750.

Hab. in montes *Sillet, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Herba spithamæa, caule tenui, vaginis laxis membranaceis vestito. Folia cordata, oblonga, acuminata, 5-plicata, longè petiolata. Bracteæ lineares, acutæ. Calcar breve, clavatum, obtusissimum. Labellum oblongum, basi angustatum, lobis lateralibus intermedio .... multò minoribus integris, medio lineis tribus approximatis elevatis subundulatis, apice liberis.

LXV. CALLOSTYLIS.

Callostylis. *Blume Bijdr.* 340. *tabellen* 74.

Sepala erecto-patentia, lateralibus subtus connatis. Petala paulò angustiora. Labellum parvum, integrum, disco callosum, patens, irritabile, cum basi calloso incurvo columnæ articulatum. Columna incurva, clavata, libera. Anthera 2-locularis, loculis 4-locellatis. Pollinia 8, compressiuscula, caudiculis elasticis connata.——Herba epiphyta, caulescens. Caules radiciformes, pseudobolbophori. Folia rigida, lanceolata, obliquè retusa. Scapi terminales, spicato-multiflori.

Character ex Blume.

1. Callostylis rigida. *Blume l. c.*

Hab. in sylvis altioribus montium Salak, Gede, Pantjar, Burangrang, insulæ *Javæ*; Blume.

LXVI. ANIA.

Sepala et petala lineari-lanceolata, æqualia, conniventia. Labellum cum basi columnæ (nunc producta) in calcar v. saccum connatum, trilobum, planum, medio lamellatum. Columna alata, elongata, erecta. Anthera 6-8-locularis. Pollinia 8, quorum 4 in specie altera minora.——Herbæ (habitu Eulophiæ) epiphytæ, rhizomate repente. Folia plicata, membranacea, solitaria. Scapi multiflori.

Of the two species, of which this genus at present consists, one has the labellum completely calcarate, with no elongation of the base of the column; the other has it attached in a slight degree only to the elongated base, with which it forms a little sac; the latter has the pollen masses of equal size, and eight cavities in the anther for their reception; the former has two pair of the pollen masses much less than the others, and only 6 cells in the anther, of which four are for the four larger masses, and two for the two smaller pairs. In this respect Ania approaches Ceratium which is however very different in other respects.

1. Ania angustifolia. *Lindl. in Wall. Cat. Herb. Ind. no.* 3740.

A. folio lanceolato petiolato scapi longitudine, labello calcarato apice tri-

lobo lobis lateralibus dentiformibus intermedio rhomboideo majore, lamellis disci tribus mediis continuis duabus lateralibus interruptis.

Hab. in *Tavoy, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Pollinia 4 minora. Calcar breve, obtusum. Anthera 6-locularis. Scapus sesquipedalis. Petala cylindrum ferè formantia.

2. Ania latifolia. *Lindl. in Wall. Cat. Herb. Ind. no.* 3741.

A. folio oblongo plicato scapo breviore, labello unguiculato cum basi producta columnæ in saccum connato trilobo: lobis lateralibus obtusis intermedio subrotundo-ovato acuto brevioribus, lamellis unguis tribus truncatis infra sinus loborum desinentibus lobi medii quinque denticulatis: lateralibus brevioribus.

Hab. in montibus *Sillet, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Scapus bipedalis. Pollinia æqualia. Anthera 8-locularis. Petala subpatentia.

LXVII. CERATIUM.

Ceratium. *Blume Bijdr.* 341. *tabellen* 46.

Sepala subringentia, lateralibus ungui columnæ obliquè insertis, erecto-patentibus. Petala breviora erecto-conniventia. Labellum concavum, intùs cristatum, cum ungue columnæ articulatum, adscendens: limbo semitrilobo, undulato, fornicato. Anthera 4-locularis. Pollinia 8, quorum 4 obsoleta, caudiculis elasticis colligata. Capsula siliquæformis. ——Herba epiphyta, caulescens. Caules simplices. Folia sessilia, lanceolata, coriacea. Spicæ oppositifoliæ, solitariæ. Flores bracteati.

Character ex Blume.

1. Ceratium compressum. *Blume l. c.*

Hab. in sylvis primævis montium Gede et Salak insulæ *Javæ;* Blume.

LXVIII. APATURIA.

Sepala patula, pubescentia, lateralibus nunc majoribus basi obliquis. Petala angustiora, patentia. Labellum unguiculatum, cum basi magis minusve producta columnæ articulatum, basi ventricosum, carnosum, apice trilobum, disco cristato. Columna teres, clavata, arcuata, clinandrio alato. Anthera 4-8-locularis. Pollinia 8.——Herbæ terrestres, aphyllæ. Scapi vaginis scariosis filamentosis vestiti. Bracteæ membranaceæ. Flores racemosi, penduli, pubescentes.

Trichotosiæ proxima, habitu diversissimo et labello basi inflato distincta.

1. Apaturia senilis. *Lindl. in Wall. Cat. Herb. Ind. no.* 3739.

A. petalis lineari-oblongis: venis tribus distantibus, labelli lobis lateralibus subfalcatis, intermedio ovato undulato paulò longiore: lineis tribus glandulosis quarum laterales majores elevatæ ad apicem labelli secus marginem excurrunt.

Hab. in montibus *Sillet, Wallich;* in *Uligapur* et *Kalegung, Hamilton.* (*hab. s. sp. e Museo Anglo-Indico.*)

Scapus pedalis. Bracteæ lanceolatæ. Sepala 5 lineas longa, ovato-oblonga, obtusa.

This resembles A. Smithiana in appearance so much as to be likely to be confounded with it. To the above characters which will I hope distinguish it, may be added the much less crowded racemes and larger flowers.

2. Apaturia Smithiana. *Lindl. in Wall. Cat. Herb. Ind. no.* 3737.

A. petalis spatulatis unguiculatis in medio 3-veniis, labelli lobis lateralibus obtusis, intermedio subrotundo emarginato: lineis quinque elevatis undulatis in medio lobi medii clavatìm desinentibus.

Hab. ad Kudjurea-ghaut, in regno *Oude, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

Scapus sesquipedalis. Racemus multiflorus. Bracteæ subulatæ longissimæ. Sepala 4 uncias longa, ovata, acuta, subæqualia.

3. Apaturia Chinensis.

A. petalis lineari-oblongis univeniis, labello trilobo: lobis obtusis æqualibus intermedio apiculato, lineis disci 5 æqualibus crispatulis intra apicem tantum lobi medii desinentibus.

Hab. in *China* prope Macao, Reverendus Dominus G. H. *Vachel.* (*hab. s. sp. commun. cel. Henslow.*)

Scapus pedalis. Sepala semunciam longa, ovata, acuta, patula. Petala longiora, patentissima. Pollen ignotum.

4. Apaturia montana. *Lindl. in Wall. Cat. Herb. Ind. no.* 3738.

A. petalis linearibus univeniis, labelli lobis lateralibus acutis intermedio ovato concavo ciliato brevioribus, lineis 5 disci cristatis undulatis.

Hab. in summo monte Nuera Ellia, *Zeylona, Macrae.* (*hab. s. sp.*)

Apicem scapi tantum vidi. Sepala semunciam longa; lateralia duplò latiora. Labellum magis ventricosum et columna magis basi productum quam in cæteris. Pollen ignotum.

LXIX. TRICHOTOSIA.

Trichotosia. *Blume Bijdr.* 342. *tabellen* 11.

Sepala pubescentia, lateralibus ungui columnæ adnatis, calcar mentientibus. Petala conformia, glabra. Labellum unguiculatum, ungui columnæ basi adnatum, limbo sublobato v. integerrimo. Columna basi longiùs producta. Anthera 2-locularis, loculis 4-partitis. Pollinia 8, ope materiei elasticæ pulvereæ cohærentia.——Herbæ epiphytæ, caulescentes, pilosiusculæ. Caules simplices. Folia sessilia, coriacea, v. subcarnosa. Pedunculi oppositifolii, solitarii, pauciflori. Flores bracteati.

Character ex Blume. An pollen rectè descriptum?

1. Trichotosia microphylla. *Blume.*

T. "pubescens; foliis carnosis ovalibus acutis, pedunculo oppositifolio unifloro tribracteolato, labelli limbo patente obtuso integerrimo." *Blume l. c.*

Hab. in arboribus prope Tjitjalobak ad montem Salak, insulæ *Javæ;* Blume.

2. Trichotosia annulata. *Blume.*

T. " caulibus ad insertionem foliorum pilis ferrugineis annulatis, foliis lineari-lanceolatis acuminatissimis glabriusculis, labelli limbo rotundato-patente." *Blume l. c.*

Hab. in sylvis altis ad montem Salak, insulæ *Javæ;* Blume.

Flores albidi, labelli limbo sulphureo, anthera atropurpurea; *Bl.*

3. Trichotosia ferox. *Blume.*

T. " rubro-pilosa; foliis lanceolatis, pedunculis flexuosis, labelli limbo patente, bilobo." *Blume l. c.*

Hab. in sylvis opacis montis Salak, insulæ *Javæ;* Blume.

4. Trichotosia pauciflora. *Blume.*

T. " pubescens, foliis lanceolatis, pedunculis paucifloris, labelli limbo erecto emarginato." *Blume l. c. tab.* 11.

Hab. in arboribus ad montem Pantjar, insulæ *Javæ;* Blume.

LXX. TAINIA.

Tainia. *Blume Bijdr.* 354. *tabellen* 48.

Sepala ringentia, acuminatissima, lateralibus labello suppositis ungui columnæ adnatis. Petala conformia. Labellum columnâ articulatum, indivisum, acuminatum, intùs lineatum, sepalis minus. Columna semiteres, basi producta. Anthera subcarnosa, incompletè 8-locularis. Pollinia 8, ope materiei pulvereæ elasticæ cohærentes.——Herba terrestris, glabra, caulibus radicantibus. Folia membranacea, plicata, longè petiolata, petiolis basi bulboso-tumidis. Scapus lateralis spicato-multiflorus.

Character ex Blume. An pollen rectè descriptum?

1. Tainia speciosa. *Blume l. c.*

Hab. in umbrosis montis Salak, insulæ *Javæ;* Blume.

LXXI. PLOCOGLOTTIS.

Plocoglottis. *Blume Bijdragen* 380. *tabellen* 21.

Flores ringentes. Sepala majora, lateralibus sub labello infernè connatis. Petala apice incurva. Labellum basi utrinque cum plicis membranaceis inflexis columnæ connatum; limbo convexo indiviso patente demum erecto. Columna supernè libera. Anthera bilocularis. Pollinia 4, rotunda, caudiculis duabus longis replicatis.——Herba terrestris. Folia in petiolo tumido solitaria, oblongo-lanceolata, plicata. Scapus radicalis, erectus, multiflorus. Flores pedicellati, bracteolati.

Character ex Blume.

1. Plocoglottis Javanica. *Blume l. c.*

Hab. locis umbrosis et humidis ad pedes montium Salak, Pantjar, &c. insulæ *Javæ;* Blume.

Note. The total number of Orchideous plants belonging to the Tribe Epidendreæ is as follows;

Described	149
Doubtful	4
Total	153

Their geographical arrangement is thus:

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropics.	South America beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropics.	North Africa.
48. Collabium	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
49. Epidendrum	.	.	1	.	.	.	.	.	.	.	.	74	.	.	.	.	.
50. Dinema	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
51. Encyclia	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
52. Isochilus	.	.	.	.	.	.	.	.	.	.	.	8	.	.	.	.	.
53. Ponera	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
54. Brassavola	.	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.
55. Lælia	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
56. Cattleya	.	.	.	.	.	.	.	.	.	.	.	11	.	.	.	.	.
57. Broughtonia	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
58. Tetramicra	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
59. Spathoglottis	.	.	.	1	1	.	2	.	.	.	.	.	.	.	.	.	.
60. Bletia	.	.	1	1	.	.	1	1	1	.	.	8	.	.	2	.	.
61. Ipsea	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
62. Arundina	.	.	.	.	1	1	1	1	.	.	.	.	.	.	.	.	.
63. Phaius	.	.	.	4	.	1	3	1	.	.	.	.	.	.	.	.	.
64. Cytheris	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
65. Callostylis	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
66. Ania	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.
67. Ceratium	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
68. Apaturia	.	.	.	.	2	1	.	1	.	.	.	.	.	.	.	.	.
69. Trichotosia	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.
70. Tainia	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
71. Plocoglottis	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Total	.	.	2	8	5	4	16	4	1	.	.	112	.	.	2	.	.

ORCHIDEÆ.

Tribe III. Vandeæ.

Orchideæ, Tribus Vandeæ. *Lindl. Orch. Sceletos.*

Pollen in massas cereaceas (pollinia) definitas cohærens, sub anthesi lamellæ elasticæ (caudiculæ) et glandulæ stigmatis agglutinatas. Anthera terminalis, rarò dorsalis, opercularis. Herbæ epiphytæ v. terrestres, nunc (præsertìm in Americanis) pseudobulbis oligophyllis gaudentes, nunc (præsertìm in Asiaticis) caulescentes; ferè omnes intra tropicos provenientes.

The presence of the elastic or transparent strap called caudicula, which separates along with the gland of the stigma about the period of impregnation, and forms a strict adhesion with the pollen masses, forms the distinctive character of this tribe. In Epidendreæ the caudicula is present, but in neither those nor in Malaxideæ, the only tribes with which Vandeæ can be easily confounded, is there any separation of the gland from the stigma. In some genera of Vandeæ such as Cymbidium, there is no distinction between the caudicula and the gland; but the spontaneous separation of the latter sufficiently indicates the real affinity of such genera. Through Calanthe we have a direct passage from Vandeæ to Ophrydeæ.

It is probable that this very extensive tribe is susceptible of subdivision into several tolerably well defined groups, of which Maxillaria, Cymbidium, Eulophia, Masdevallia, Oncidium, Aerides, and Calanthe might be taken as the types. But it would be premature to attempt such a subdivision in the absence of more precise knowledge of the structure of a great number of species. I therefore propose, in the mean while, the following artificial table, as a ready means of analysing such genera as I am at present acquainted with.

Artificial Analysis of the Genera.

A. *Pollinia 2, integra, v. sulcata, v. altè biloba; v. 4.*

1. § Caudiculæ 2.

Sepala lateralia basi in calcar spurium connata. - - 154. Podochilus.
Sepala libera, basi non producta,
  spatulata unguic. Petala lobata. Labellum 4 partitum. 160. Cryptopus.
  sessilia.
    Labellum cum ung. product. columnæ artic.
      Unguis columnæ calcarat. - - - 159. Aeranthes.
      Unguis columnæ mutica. - - - 82. Bifrenaria.

Labellum sessile,
calcaratum. - - - - 161. Œonia.
basi saccatum,
integrum. - - - - 111. Dipodium.
trilobum. - - - 133. Tetrapeltis.
basi planum,
trilobum anticum. Glandulæ 2. - - 106. Chelonanthera.
indivisum posticum. Gland. 1. - - 108. Sunipia.

2. § Caudicula 1.

* *Calcaratæ; cornutæ; v. saccatæ.*

1. Labellum cum columna altè connatum.
Sepala reflexa, petalis alæform. patent. longè minora. - 116. Lissochilus.
Sepala et petala subæqualia.
Sepala lateralia labello adnata. - - 140. Microsaccus.
Sepala omnia libera.
Labellum utroque margine cornutum. - - 135. Trichoglottis.
Labellum muticum bilobum. Col. alata. - 107. Acanthoglossum.
2. Labellum sessile, liberum; v. cum columna parùm connatum.
Sepala lateralia connata, labello supposita. - - 121. Rodriguezia.
Sepala omnia libera.
Labellum basi tantùm saccatum, (v. si leviter cornutum carnosissimum, sepalis æquale v. majus),
cum columna continuum, integrum v. leviter lobatum,
planum. Perianth. expl. carnosum. Anth. valv. persist.
Calcar labelli unicum. - - 137. Vanda.
Calcaria labelli duo. - - 139. Diplocentrum.
cucullatum. Perianth. claus. membr. Anth. valv. deciduæ. - - 102. Geodorum.
cum columna parallelum medio reflexum. Perianth. clausum. - - - 120. Jonopsis.
cum col. articul. 3-lob. sepalis linearibus difformibus multò brevius. - - - 138. Renanthera.
Labellum calcaratum.
Calcar ventr. 1-loc. limbo integro, v. obsoleto, v. leviter lobato,
fauce apertâ,
vacuum.
Sepala omnia libera. - - 144. Saccolabium.
Sep. lat. basi connata. - - 145. Tæniophyllum.
intus dente dorsali auctum. - - 146. Cleisostoma.
fauce marg. inflexo clausâ, biglandulosâ. - 151. Ceratochilus.
Calc. ventr. 1-loc. limbo lobato. - - 152. Echioglossum.
Calc. ventr. 2-loculare. - - 153. Sarcanthus.
Calc. cornutum.
Col. anticè bicirrhosa. - - - 158. Schœnorchis.
Col. mutica.
Labellum indiv. carnos. petalis multò latius Perianth. expl. - - 162. Angræcum.
Labellum lobatum (sæpiùs cucullatum).
Poll. 2. Epiphyta. - - 156. Œceoclades.
Poll. 4. Terrestris. - - 165. Tipularia.
3. Labellum liberum basi (sæpiùs longè) productæ columnæ affixum.
Sepala et petala æqualiter patentia. - - 157. Aerides.
Sepala et petala secunda.
Labellum basi infundibuliforme, cucullatum, indivisum 112. Galeandra.
Labellum basi cornutum, v. breviùs calcaratum, lobatum 110. Eulophia.

** *Ecalcaratæ; nempè nec sacco nec calcare ullo pone basin labelli.*

1. Labellum cum columna connatum.
Sepala lateralia invicem libera,
labello basi adnata. - - - 72. Nanodes.
supremum basi petalis adnatum. - - 73. Aspasia.
Sepala lateralia connata.
Petala cum sepalo supremo connat. - - 76. Trizeuxis.
Petala libera. Columna anticè bicorn. - - 75. Acriopsis.
Sepala omnia libera (conniventia). - - 74. Ornithidium.
2. Labellum liberum sessile, v. subsessile.
Sepala omnia connata. - - - 118. Masdevallia.
Sepala lateralia magis minùsve connata.
Perianth. globos. Lab. 3-lob. medio articulat. - 95. Peristeria.
Perianthium patens.
Sepala lateralia obl. calcar referentia. - - 85. Alamania.
Sep. lat. subæquilatera.
Anth. dorsalis. Col. aptera. - - 117. Notylia.
Anth. terminalis.
Col. biaurita. - - - *bis* 125. Oncidium.
Col. aptera.
Lab. apice 1-cameratum, cum sepalis longè connatum. - - 141. Camarotis.
Lab. apice saccatum, sepalis ferè liberum. 143. Micropera.
Sepala omnia libera.
Labell. petalis conforme. - - - 101. Trichoceros.
Labell. petalis difforme.
Columna alata, v. aurita;
apice aurita. - - - 122. Macradenia.
utrinque aurita.
Pollinia cava. - - - 125. Oncidium.
Pollinia solida. - - - 126. Fernandezia.
petaloidea.
Lab. ventricosum. - - - 109. Calypso.
Lab. planum. - - - 127. Pachyphyllum.
versus apicem alato-marginata.
Lab. cum ungue tuberculato continuum. 130. Cyrtochilum
Lab. medio constrictum, hypochilio cavo. 91. Stanhopea.
Columna aptera.
Poll. 4, distincta.
Flores aperti. Rostellum longissimum. 77. Ornithocephalus.
Flores cylindracei. - - - 99. Cremastra.
Poll. 2, solida, fissa. v. 2-partita.
Columna bicirrhosa.
Labellum ventricosum carnosum posticum. 89. Catasetum.
Labell. explanatum petaloideum anticum. 88. Myanthus.
Col. mutica.
Perianth. connivens.
Lab. cucull. membranac. columnâ contin. - - (*bis*) 102. Geodorum.
Lab. plan. carnosum,
petalis conforme. - - 83. Dicrypta.
petalis difforme. - - 155. Adenoncos.
Perianth. explanatum.
Columna teres 1-cornis. - - 136. Telipogon.
Col. semiteres, mutica.
Poll. longè distantia. - - 100. Grammatophyllum.
Poll. basi contigua.
Labell. plan. integr. 1-callos. 129. Phymatidium.
Lab. plan. integ. ecallosum. 132. Brassia.
Labell. cucullatum,
columnam involvens. - 103. Sobralia.
columnâ parall. antic.
Poll. 2, posticè fissa. 97. Cymbidium.
Poll. 2, cava, convoluta; Labell. apice saccatum. - 98. Acropera.
Labell. ventricos. posticum indivisum. - - 90. Monachanthus.

3. Labellum liberum, c. basi producta columnæ articulatum; v. longè unguiculatum.
Sepala lateralia basi producta, columnâ v. invicem connata;
omnia connata. - - - - 148. CRYPTOGLOTTIS.
supremum liberum.
Lab. cucullat. v. ventric.
Sepala secunda. - - - 115. CYRTOPERA.
Sepala æqualiter patentia.
Lab. c. columna articulatum.
Poll. incumbentia 8 8. - 80. MAXILLARIA.
Poll. collateralia oo oo. - - 96. EUCNEMIS.
Lab. c. columna continuum. - - 79. SARCOCHILUS.
Lab. planum, v. tantum canaliculatum.
patentissimum.
Poll. 4. Pet. sepalis angustiora. - 86. PSITTACOGLOSSUM.
Poll. 2. Pet. sepalis latiora falcata. - 87. CYCNOCHES.
in columnam incumbens.
Col. 2-cornuta. - - - 150. EPHIPPIUM.
Col. mutica.
. Lab. hastat. longè unguiculatum. - 105. DORITIS.
Lab. sessile,
bilobum. - - - 142. CHILOSCHISTA.
subtrilobum. - - 84. GOVENIA.
lateralia libera;
supr. et pet. columnâ connat. - - 92. GONGORA.
supremum liberum.
Stigma verticale. Anth. dorsal. - 78. CIRRHÆA.
Stigma terminale. Anth. term.
Pet. sepalis multò majora. - - 134. PHALÆNOPSIS.
Pet. sepalis subæqualia.
Clinandr. cucull. anth. includens. - 123. CRYPTARRHENA.
Clin. immarginatum.
Lab. cucull. 2-lob. ungue nudo. - 94. ANGULOA.
Lab. galeat. ungue appendice poculiformi incluso. - - } 93. CORYANTHES.
Lab. planum.
Perianth. clausum. Lab. triangulare. - - } 128. DICHÆA.
Perianth. explan.
Lab. indivis. laminâ patente basi cristatâ.
Perianth. æqualiter patens. 131. ODONTOGLOSSUM.
Perianthium secundum. - 113. ZYGOPETALUM.
Lab. 3-partit. c. basi product. columnæ continuum. - } 114. CYRTOPODIUM.
Lab. flabelliforme; columna aurita. - - } 124. CUITLAUZINA.

B. *Pollinia* 8.

Labellum c. columna connatum.
Sep. et pet. inæq. Labellum medio constrictum. - 163. AGROSTOPHYLLUM.
Sep. et pet. subæq. Labell. continuum. - - 164. CALANTHE.
Labellum liberum,
calcaratum. - - - - 166. LIMATODES.
ecalcaratum; v. leviter saccatum.
Sepala in tubum connata. - - - 119. CRYPTOCHILUS.
Sepala basi tantum connata.
Columna basi in unguem producta. - - 149. CERATOSTYLIS.
Col. c. labello parallela. - - - 168. THELASIS.
Sepala omninò libera, v. levissimè connata.
Col. basi producta.
Perianth. tubulosum, ventricosum, fauce constrictum. - - - } 104. ACANTHOPHIPPIUM.
Per. non tubulosum.
Lab. ecalcaratum. - - - 147. APPENDICULA.
Lab. calcaratum. - - 81. ARPOPHYLLUM.
Col. non basi producta. - - - 169. GLOMERA.

LXXII. NANODES.

Nanodes. *Lindl. in Bot. Reg. t.* 1541.

Perianthium ringens. Sepalum supremum fornicatum; lateralia labello supposita eoque basi connata. Petala sepalis lateralibus conformia iisque subparallela, libera. Labellum carnosum, indivisum, cum columna connatum (more Epidendri). Columna ad utrumque marginem clinandrii alata. Anthera 2-locularis, rostrata. Pollinia 4, compressa, collateralia, in glandulam ovatam sessilia.——Epiphyta humilis, cæspitosa, caulescens. Folia coriacea, disticha, vaginantia, approximata. Flores discolores, in apice caulium sessiles, solitarii.

1. Nanodes discolor. *Lindl. l. c.*

Hab. in *Brazilia,* in sylvis prope Rio Janeiro. (*v. v. c.*)

Caules aggregati, 2-3 pollices alti, simplices, densè foliosi, nihil bulbosi. Folia ovato-oblonga, emarginata, basi amplexicaulia et vaginantia, internodiis duplò longiora, viridi-purpurea. Flores solitarii, sessiles, terminales, obscurè purpurei, inter folia immersi. Sepalum supremum ascendens, lineari-oblongum, convexum; petala declinata, cum sepalis lateralibus labello suppositis parallela. Labellum carnosum, ovatum, minutissimè crenulatum.

LXXIII. ASPASIA.

Aspasia. *Lindl. in Hook. Bot. Misc. ined.*

Perianthium patens, æquale. Sepala lateralia libera; supremum cum petalis basi connatum. Labellum oblongum, concavum, ecalcaratum, obsoletè 4-lobum, cum columna semi-connatum. Columna labello parallela, semiteres, marginata. Anthera . . . . Pollinia 2, pyriformia, posticè sulcata, caudiculâ planâ cuneatâ, glandulâ parvâ.——Herbæ epiphytæ, caulescentes, pseudobulbosæ. Folia subcoriacea. Spicæ radicales, breves. Flores mediocres.

1. Aspasia epidendroides. *Lindl. l. c.*

Hab. in *Panama* et *Columbia occidentali, Cuming.* (*no.* 1297.) (*hab. s. sp.*)

Pseudobulbi 1-2-phylli, compressi, dipteri. Folia pedalia. Racemi e basi pseudobulborum, quibus sunt paulò longiores.

LXXIV. ORNITHIDIUM.

Ornithidium. *Salisb. in Hort. Trans.* 1.293.

Perianthium clausum, liberum, æquale. Labellum cum basi columnæ connatum, cucullatum, disco callosum. Columna labello parallela, teretiuscula, rostello brevissimo. Anthera bilocularis. Pollinia 2, bipartibilia, lobis incumbentibus; in glandulam parvam triangularem sessilia. ——Herba epiphyta, caulescens. Caules ramosi, pseudobulbos axillares gerentes. Folia subcoriacea. Racemi sessiles, axillares, effusi.

1. Ornithidium coccineum. *Salisb. l. c.*

Helleborine coccinea multiflora. *Plum. sp.* 9. *ic.* 180. *f.* 1.
Epidendrum coccineum. *Linn. sp. pl.* 1348. *Jacq. Amer.* 222. *t.* 135.
Cymbidium coccineum. *Swartz. Nov. Act. Ups.* 6. 70. *Willd.* 4. 94. *Bot. Mag. t.* 1437.
Ornith. coccineum. *Hort. Kew. ed.* 2. 5. 210. *Hooker. Exot. Fl. t.* 38.

Hab. in sylvis *Martinicæ* humidis, præcipuè ad torrentes, Jacquin; *St. Vincentii, Guilding.* (*v. v. c. et hab. s. sp. comm. cel. Hooker.*)

Flores in axillis foliorum fasciculati, exserti, nutantes. Pedunculi ad nodos bracteoliferi. Bracteæ membranaceæ, vaginantes. Ovarium obscurè costatum. Perianthium roseum, connivens; sepala ovata, acuminata; petala conformia, minora. Labellum columnæ appressum, ungue concavo; cum basi columna cava nectarifera connatum, sursum dilatatum in laminam ovato-lanceolatam, subundulatam, patentem, in medio columnæ proximo verrucam magnam luteam gerentem. Columna petalis brevior, basi anticè gibbosa, intensè lutea. Stigma concavum infra apicem columnæ. Anthera opercularis, decidua, apiculata, dorso cristata, septo incompleto. Pollinis massæ quatuor, geminatæ, cereaceæ, in vertice columnæ incumbentes, caudiculæ planæ cum glandula in margine anteriore stigmatis cohærente adnatæ.

LXXV. ACRIOPSIS.

Acriopsis. *Blume Bijdr.* 376. *tabellen* 71. *Reinwardt in Bot. Zeitung,* 1825, *v.* 2. *p.* 4.

Perianthium patulum, tetraphyllum, petalis sepalisque subæqualibus. Labellum basi columnæ in tubum connatum, limbo patente cordato cristato. Columna erecta, cornubus duobus porrectis apice glandulosis. Anthera bilocularis, intra clinandrium fornicatum abscondita. Pollinia 2, fusiformia, caudiculâ filiformi, glandulâ parvâ subrotundâ.——Herba epiphyta. Folia pseudobulbis insidentia, lineari-lanceolata, obtusa. Pedunculi radicales, paniculati. Flores pedicellati.

Character ex Blume.

1. Acriopsis Javanica. *Blume, l. c. Reinw. l. c.*

Hab. in arboribus montium *Javæ* occidentalis; Blume.

LXXVI. TRIZEUXIS.

Trizeuxis. *Lindl. collect. bot. t.* 2.

Perianthium globosum. Sepala lateralia connata, labello supposita; supremum cum petalis conformibus basi connatum. Labellum posticum, basi levissimè columnâ connatum, integrum, concavum, acutum. Columna labello parallela, teres, clavata, stigmate longitudinali. Anthera 1-locularis, carnosa. Pollinia 2, basi discreta, solida, caudiculâ maximâ oblongâ, glandulâ parvâ ovali.——Epiphyta parva, acaulis. Folia falcata, disticha. Scapi paniculati. Flores aggregati, minuti.

1. Trizeuxis falcata. *Lindl. l. c. Hooker, Exot. Fl. t.* 126.

Hab. supra arbores in *Indiâ occidentali.* (*v. r. c.*)

LXXVII. ORNITHOCEPHALUS.

Ornithocephalus. *Hooker, Exot. Flora, t.* 127. (1825.)

Perianthium patens. Sepala obtusa, lateralia reflexa, supremum fornicatum. Petala conformia, incurva. Labellum posticum, ecalcaratum, unguiculatum, acuminatissimum, sepalis longius. Columna brevis, aptera, rostello longissimo subulato. Anthera 4-locularis, rostello conformis. Pollinia 4, solida, cruciatìm caudiculæ longissimæ subulatæ affixa; glandula parva, ovalis.——Herba epiphyta, acaulis. Folia equitantia, carnosa. Spica axillaris. Bracteæ amplexicaules. Flores inconspicui.

1. Ornithocephalus gladiatus. *Hooker, l. c.*

Hab. in insulâ *Trinitatis,* De Schack.

LXXVIII. CIRRHÆA.

Cirrhæa. *Lindl. in Bot. Reg.* 930 *et* 1538.

Perianthium patens. Sepala libera, æqualia. Petala multò angustiora, linearia, flexuosa. Labellum longè unguiculatum, columnâ continuum, tripartitum; laciniis angustis intermediâ minore. Columna erecta, clavata, teres, stigmate subquadrato, horizontali! rostello cirrhato. Anthera dorsalis! membranacea, sub-unilocularis. Pollinia 2, parallela, oblonga, compressa, elasticè prosilientia, caudiculâ brevi corneâ, glandulâ incurvâ.——Herbæ epiphytæ, pseudo-bulbosæ. Folia plicata. Racemi penduli, multiflori, radicales. Flores maculati.

1. Cirrhæa Loddigesii. *Lindl. in Bot. Reg. t.* 1538.

C. foliis oblongo-lanceolatis utrinque acuminatis, petalis linearibus flexuosis, labelli lobo medio lineari-spatulato lateralibus acutis.

Cymbidium dependens. *Lodd. Bot. Cab.*

Hab. verosimiliter in *Braziliâ*; nec Chinâ ut aiunt Hortulani. (*v. v. c.*)

Pseudo-bulbi ovati, costati, 1-2½ poll. longi, sæpiùs nudi. Folia solitaria, pedalia, oblongo-lanceolata, utrinque acuminata, costis 7 subæqualibus. Racemi radicales, penduli, multiflori, foliis breviores. Sepala oblonga, obtusa, æqualia, et tali modo patentia ut triangulum æquilaterum efficiunt; apice maculata. Petala linearia, flexuosa, basi cum sepalo supremo parallela. Labellum ungue longo tereti, lobis lateralibus acuminatis, erectis, intermedio lineari-spatulato obtuso duplò breviore. Columna libera, arcuata, teres, clavata, apice truncata et stigmatifera. Stigma subhorizontale, obliquum; rostello subulato, elongato, cirrhoso. Anthera postica, opercularis, unilocularis, decidua, in clinandrio dorsali incumbens, valvis membranaceis involutis. Pollinia 2, cereacea, parallela, oblonga, compressa, elasticè prosilientia, glandulæ unicæ affixa.

2. Cirrhæa viridipurpurea. *Lindl. l. c.*

C. foliis oblongo-lanceolatis, petalis linearibus arcuatis, labelli lobo medio acuminato lateralibus æquali.

Gongora viridi-purpurea. *Hooker in Bot. Mag. t.* 2978.

Hab. in *Braziliâ,* supra arbores in sylvis ad sinum Botofogo.

Sepala extùs lætè viridia, intùs vitellina purpureo-maculata.

3. Cirrhæa fusco-lutea. *Lindl. l. c.*

C. foliis lanceolatis acuminatis, petalis lineari-lanceolatis, labelli lobo medio ovato lateralibus obtusis.

Hab. supra arbores *Braziliæ* ad Corcovado (*exam. s. sp. et v. ic. pict. in herb. Hooker.*)

This very much resembles C. Loddigesii; but the flowers are twice as large, the sepals are dusky brown, with a few reddish lines, and the petals greenish yellow; while all the parts are destitute of spots except the middle lobe of the labellum.

LXXIX. SARCOCHILUS.

Sarcochilus. *R. Brown, Prodr.* 332.

Perianthium patens. Sepala lateralia cum ungue labelli subtùs connata. Petala conformia. Labellum posticum, ecalcaratum, cum ungue columnæ continuum, calceiforme; lobo intermedio carnoso, solido. Columna.. Anthera.....Pollinia 2, in glandulam deltoideam sessilia.——Epiphyta acaulis, v. brevissimè caulescens. Folia disticha, lineari-lanceolata, falcata. Racemi axillares, erecti, 5-6 flori, secundi. Bracteæ breves, latæ, ovatæ. Flores speciosi.

I have been scarcely able to ascertain any thing satisfactory as to the structure of the Pollen masses. They appeared, in the only specimen I examined, to be like those of Cymbidium.

1. Sarcochilus falcatus. *R. Br. l. c.*

Hab. in *Novâ Hollandiâ*, ad Hunters River et Newcastle, *Brown*, (*hab. s. sp. comm. cel. Brown.*)

LXXX. MAXILLARIA.

Maxillaria. *Fl. Peruv. Prodr.* 116. *t.* 25. *syst.* 219. Xylobium. *Lindl. Bot. Reg.* 897. Colax. *Ib. eod. loc.* (*nomen posteà mutatum.*)

Perianthium connivens, raro patens. Sepala lateralia cum basi productâ, columnæ connata. Petala subconformia. Labellum trilobum, cucullatum, sessile, cum basi productâ columnæ articulatum. Columna semiteres, aptera. Anthera subbilocularis. Pollinia 2, bipartibilia v. integra, caudiculâ brevi, glandulâ transversâ.——Epiphytæ, (Americanæ) pseudobulbosæ, acaules, v. caulescentes. Folia plicata, v. coriacea. Pedunculi radicales, axillares v. terminales, uni v. multiflori.

The species of this genus may be separated into the following subdivisions.

§ 1. *Axillifloræ.* Pedunculi axillares. (Eumaxillaria.)
§ 2. *Scapigeræ.* Pedunculi radicales.
 a. Labellum anticum. (Colax.)
 b. Labellum posticum. (Xylobium.)
§ 3. *Spathaceæ.* Pedunculi terminales, e spatha vaginante erumpentes. (Nothium.)

§ 1. *Axillifloræ.* Pedunculi axillares. (Eumaxillaria.) Sp. 1—16.

1. Maxillaria platypetala. *Fl. Peruv. Syst. p.* 221.

M. caule folioso axillis pseudobulbiferis, pseudobulbis oblongis 1-2phyllis,

foliis oblongis obtusis nunc emarginatis coriaceis, floribus solitariis axillaribus, pedunculis vaginatis pseudobulbis longioribus, sepalis patulis oblongis rotundatis lateralibus basi connatis, petalis conformibus duplò minoribus, labello oblongo concavo obtuso tuberculo oblongo truncato in medio.

Hab. in *Peruviæ* montibus nemorosis ad *Muña* et *Chaclla* vicos, Ruiz et Pavon; ad *Camino real* alt. 6000 ped. *Hall* (*hab. s. sp. comm. cel. Hooker*).

Surculi juniores imbricati, *Fernandeziæ elegantis* facie. Folia 3-4 poll. longa, 9-10 lin. lata. Sepala guttata. Petala verosimiliter immaculata.

2. Maxillaria ochroleuca. *Loddiges Bot. Cab. ined.*

M. pseudobulbis oblongis compressis diphyllis, foliis ensiformibus strictis, floribus fasciculatis radicalibus pseudobulbis brevioribus, sepalis lineari-lanceolatis acuminatissimis, labello duplò breviore cucullato medio calloso trilobo: lobis lateralibus membranaceis subundulatis obtusis intermedio oblongo carnoso recurvo.

Hab. in *Brazilia*, prope Rio Janeiro, *Loddiges* (*v. v. c.*)

Bracteæ longæ membranaceæ acuminatæ. Flores albidi, odorati. Sepala lineari-lanceolata, acuminatissima, lateralibus basi parùm obliquis, cum ungue producto columnæ cornu breve obtusum formantibus. Petala æquilonga, conformia. Labellum sepalis duplò brevius, cum columna parallelum, cucullatum, trilobum; lobis lateralibus membranaceis apice ovatis obtusis subundulatis porrectis, intermedio longiore oblongo carnoso convexo recurvo subcrispo; callo magno lævi omnem axin labelli lobo intermedio excepto occupante. Columna clavata marginata. Anthera membranacea, unilocularis. Pollinia 4, per paria inæqualia in glandulam lunatam sessilia, incumbentia (8 8).

3. Maxillaria longipetala. *Fl. Peruv. Syst. p.* 22.

M. pseudobulbis . . . . . . , foliis ligulatis apice tridentatis basi vaginantibus, pedunculis vaginatis axillaribus unifloris, petalis sepalisque linearibus acuminatis conniventibus, labello triplo minore trilobo: lobo intermedio angusto oblongo acuto margine crispo apice acutiusculo.

Hab. in *Peruviæ* nemoribus *Pillao*, *Acomayo* et *Pati* supra saxa et arbores, *Ruiz et Pavon* (*exam. s. sp. in herb. Lambert.*)

Folium 8 poll. longum, retusum, dentibus apicis lateralibus sæpè rotundatis v. obliteratis. Superficiem labelli haud observare licuit.

4. Maxillaria alba.

M. caule folioso axillis pseudobulbiferis, foliis 1-3 ligulatis acutis coriaceis aveniis, floribus solitariis axillaribus erectis, sepalis patulis ovato-lanceolatis obtusiusculis: lateralibus basi connatis, petalis conformibus, labello oblongo obtuso tuberculo oblongo carnoso in medio.

Dendrobium album. *Hooker Exot. Fl. t.* 142.
Broughtonia alba. *Spreng. Syst.* 3. 735.

Hab. in *Jamaica*; Hooker; in *Cayenna*, Lamarck. (*v. s. sp. in herb. Vahl.*)

Planta verosimiliter epiphyta, *Ornithidii* facie. Flores candidi. Ovarium longissimum, rectum. M. platypetalæ affinis, foliis longis ligulatis sepalisque angustioribus præcipuè diversa.

5. Maxillaria undulata. *Fl. Peruv. Syst.* 221.

M. " bulbis ovato-oblongis striatis, foliis lanceolatis 5-7-nervibus, scapo brevi racemoso."

Hab. in nemoribus *Chinchao* et *Muña* supra arbores et saxa; floret Augusto et Septembri; Ruiz et Pavon.

6. Maxillaria variegata. *Fl. Peruv. Syst.* 222.

M. "bulbis ovatis, foliis lanceolatis plicatis, scapo variegato racemoso."

Hab. in *Muña* nemoribus calidis; floret a Junio ad Septembrem; Ruiz et Pavon.

7. Maxillaria ligulata. *Fl. Peruv. Syst.* 222.

M. "bulbis ovatis, foliis ensiformibus, scapo volubili, floribus paniculatis, nectarii labio ligulato."

Hab. in *Pillao* et *Acomayo* nemoribus; floret Augusto et Septembri; Ruiz et Pavon.

8. Maxillaria hastata. *Fl. Peruv. Syst.* 222.

M. "bulbis oblongis, foliis ensiformibus, scapo volubili, pedunculis distantibus racemosis, nectarii labio hastato."

Hab. in *Pillao* sylvis supra saxa; floret Augusto et Septembri; Ruiz et Pavon.

9. Maxillaria paniculata. *Fl. Peruv. Syst.* 223.

M. "bulbis oblongo-ovatis, foliis ensiformibus plicatis, floribus paniculatis."

Hab. in *Pillao* montibus et petrosis locis; floret Septembri et Octobri; Ruiz et Pavon.

10. Maxillaria cuneiformis. *Fl. Peruv. Syst.* 223.

M. "bulbis ovatis, foliis ensiformibus canaliculatis, floribus racemosis, petalis cuneiformibus, nectario cordiformi."

Hab. in *Tarmae* Provinciæ præruptis versus *Acobamba* et *Picoy* vicos; floret Julio et Augusto; Ruiz et Pavon.

11. Maxillaria bicolor. *Fl. Peruv. Syst.* 224.

M. "bulbis ovatis ancipitibus, foliis ensiformibus margine scabris, floribus racemosis, pedicellis subdichotomis."

Hab. in *Huassahuassi* saxosis; floret Novembri et Decembri; Ruiz et Pavon.

Vernaculè *çaça-çaca,* id est, *Empedrado desencaxado,* quia copiosissimi bulbi extra terram aggregati veluti pavimentum lapidibus formatum referunt. Incolæ ad sitim mitigandam bulbos succosos subinsipidos frequenter masticant et sugunt. *Id.*

12. Maxillaria tricolor. *Fl. Peruv. Syst.* 224.

M. "bulbis ovatis compressis, foliis ensiformibus striato-nervosis, floribus racemosis erectis tricoloribus."

Hab. in præruptis et calidis locis *Huassahuassi* supra saxa; floret Octobri et Novembri; Ruiz et Pavon.

13. Maxillaria triphylla. *Fl. Peruv. Syst.* 225.

M. "bulbis ovatis triphyllis, foliis ensiformibus carinatis, floribus racemosis, petalis nectarioque unguiculatis acutis."

Hab. in *Tarmæ* provinciæ nemoribus versus *Vitoc* et *Collac* vicos, præsertim ad fluvii *Maraynioc* littora, ubi Joannes Tafalla eam delineavit; floret Augusto et Septembri; Ruiz et Pavon.

14. Maxillaria undatiflora. *Fl. Peruv. Syst.* 225.

M. " bulbis ovatis, foliis lanceolatis quinquenervibus, floribus paniculatis."

Hab. in nemoribus *Tarmæ* ad *Vitoc* arcem, unde Joannes Tafalla ad nos iconem et descriptionem misit; floret Aprili et Maio; Ruiz et Pavon.

15. Maxillaria prolifera. *Fl. Peruv. Syst.* 225.

M. " bulbis oblongis sulcatis, foliis lanceolatis, scapo bulbifero foliiferoque, floribus axillaribus 2-4-nis nutantibus."

Hab. in *Huassahuassi* frigidis locis ubi cl. Tafalla plantam descripsit et delineavit; floret Aprili et Maio; Ruiz et Pavon.

16. Maxillaria ramosa. *Fl. Peruv. Syst.* 226.

M. " bulbis fibrosis, caule radicante vaginato, floribus axillaribus solitariis."

Hab. in nemoribus *Chinchao* supra arbores ad *Mesapata* et *Machaynio* praedia; floret Junio et Julio; Ruiz et Pavon.

Obs. Habitu hæc species à reliquis differt; attamen fructificatio sub eodem genere eam inserere jubet; *Id.*

§ 2. *Scapigeræ.* Pedunculi radicales.

* Labellum anticum (Colax).

a. *Scapi uniflori.* Sp. 17-27.

17. Maxillaria tetragona. *Lindl. in Bot. Reg. t.* 1428.

M. pseudobulbis ovatis tetragonis, foliis oblongo-lanceolatis plicatis basi in petiolum angustatis solitariis, scapis solitariis pseudobulbis brevioribus, sepalis petalisque oblongo-ovatis obtusiusculis patulis subæqualibus, labello carnoso ventricoso trilobo erecto: lobis lateralibus parvis acutis intermedio ovato extùs convexo, disci appendice carnoso tabulari incumbente.

Maxillaria tetragona. *Hooker in Bot. Mag.* 3146.

Hab. in *Brazilia,* prope Rio Janeiro. (*v. v. c.*)

Pseudobulbi 3, folia 8-9 poll. longa. Flores virides, odore violarum nuper carptarum, apice cinnamomei, labello nunc luteo-viridi nunc albo intùs purpurâ maculato. Pollinia subquadrata, caudiculâ lineari diaphanâ, glandulâ parvâ ovatâ.

18. Maxillaria viridis. *Lindl. in Bot. Reg. t.* 1510.

M. pseudobulbis ovatis foliosis, foliis lanceolatis acuminatis undulatis plicatis, scapo unifloro vaginato brevi, sepalis petalisque conniventibus oblongo-subrotundis obtusis subæqualibus striatis, labelli brevis trilobi lobo medio transversè rhomboideo unguiculato plano.

M. placanthera. *Hooker in Bot. Mag.* 3173.

Hab. in *Brazilia,* prope Rio Janeiro. (*v. v. c.*)

Flores virides, intùs purpureo seriatim maculati. Labellum cum basi parùm producta columnæ articulatum, unguiculatum, trilobum, medio refractum, lilacinum, lobis lateralibus minoribus erectis. Anthera carnosissima, bilocularis, loculorum valvulis membranaceis transversim de-

hiscentibus. Pollinia 4, per paria basi discreta glandulæ fuscæ sulcatæ utrinque alatæ adhærentia.

19. Maxillaria Parkeri. *Hooker in Bot. Mag. t.* 2729.

M. pseudobulbis ovalibus compressis monophyllis, folio lanceolato lingulato coriaceo obscurè striato basi angustato, scapis unifloris vaginatis erectis pseudobulbo parùm longioribus, vaginis ventricosis coloratis, sepalis oblongis obtusis, petalis lineari-lanceolatis, labello trilobo cucullato lineâ mediâ longitudinali clavatâ: lobis lateralibus integris intermedio oblongo undulato.

Hab. in *Demerara*; Parker.

Folium pedale, 2-2½ poll. latum. Vaginæ roseæ viridi-limbatæ. Sepala fulva; petala alba purpureo seriatim maculata. Labellum fusco-lilacinum, apice album, in axi luteum. Columna sanguinea. Pollinia in glandulam sessilia, bipartita.

20. Maxillaria aromatica. *Graham in Hooker's Exot. Fl.* 219.

M. pseudobulbis ovatis compressis, foliis pluribus oblongo-lanceolatis plicatis scapis unifloris erectis longioribus, sepalis ovato-oblongis petalisque conformibus acutis, labelli semicylindracei laciniis lateralibus porrectis serrulatis: intermediâ bilabiatâ! labio superiore truncato nano inferiore spatulato apice recurvo serrulato.

Colax aromaticus. *Spreng. Cur. Post.* 307.

Hab. in *Mexico*; Graham.

Scapi 4 poll. longi, filiformes, vaginati. Flores luteo-aurantiaci, extùs virescentes. Labellum intùs guttulis quibusdam aurantiacis et seriebus duabus pubescentiæ. Pollinia subglobosa, posticè fissa, caudiculâ longâ lineari, glandulâ rhomboideo-ovatâ.

21. Maxillaria stapelioides.

M. pseudobulbis ovatis obtusangulis sulcatis 1-2-phyllis, foliis ovato-lanceolatis membranaceis glaucis 1-costatis, pedunculis brevissimis unifloris, ovariis pseudobulbis brevioribus, floribus patulis, sepalis petalisque oblongis acutis subæqualibus, labello ovato ventricoso 3-lobo: lobis lateralibus linearibus obtusis erectis intermedio ovato acuminato disco . . . . . .

Cymbidium stapelioides. *Link et Otto Abbild. p.* 111. *t.* 52.

Hab. in *Brazilia*. (*v. ic. pict. in herb. Hooker.*)

Pseudobulbi 9 lineas longi. Folia 3 pollices longa, venis secundariis tenuissimis. Flores flavi *Stapeliæ* aspectu, purpureo interruptè maculati et fasciati.

22. Maxillaria picta. *Hooker in Bot. Mag. t.* 3154.

M. pseudobulbis ovatis subsulcatis 1-2-phyllis, foliis lineari-lanceolatis planis, scapis erectis unifloris distanter vaginatis foliis duplò breviores, sepalis-petalisque lanceolatis globoso-conniventibus, labello trilobo apice cordato-ovato apiculato disco elevato pubescente.

Hab. in montibus Organ *Braziliæ*; Harrison.

Species pulchri generis longè pulcherrima. Folia pedalia. Flores magni, purpureo-maculati extùs ochroleuci, intùs salvo labello vitellinis. Columna elongata, purpurea. Pollinia subæqualia, in glandulam lunatam angustissimam sessilia.

23. Maxillaria Barringtoniæ. *Lodd. Bot. Cab. t.* 1824.

M. pseudobulbis oblongis compressis costatis, foliis subternis oblongo-lanceolatis acuminatis plicatis, scapo radicali vaginato unifloro erecto pseudobulbo vix longiore, sepalis petalisque ovato-lanceolatis obtusis, labelli trilobi lobo medio ovato rotundato fimbriato, callis duobus per hypochilium decurrentibus.

Epidendrum Barringtoniæ. *Smith. ic. pict. t.* 25.
Dendrobium Barringtoniæ. *Swartz. Nov. Act. Ups.* 6. 82. *Willd. Sp. Pl.* 4. 132. *Hooker Exot. Fl. t.* 119.
Colax Barringtoniæ. *Lindl. Bot. Reg.* 897.
Dendrobium ciliatum. *Swartz. Pers. Syn.* 2. 523.
Maxillaria ciliata. *Fl. Peruv. Syst. p.* 221. *Lindl. in Bot. Reg.* 1206.

Hab. supra truncos arborum in *Jamaica*. (*v. v. c.*)

Flores magni, olivacei, labello sordidè luteo.

24. Maxillaria Deppii. *Lodd. Bot. Cab. t.* 1612.

M. pseudobulbis ovatis obtusangulis, foliis oblongo-lanceolatis plicatis basi vaginantibus, scapo erecto unifloro foliis breviore: vaginis ventricosis acuminatis, sepalis oblongo-lanceolatis patentissimis, petalis minoribus oblongis undulatis conniventibus, labello cucullato 3-lobo apice recurvo in axi calloso.

Hab. in *Mexico*, prope *Xalapam*; Deppe.

Scapus 5-6 poll. longus. Sepala ferè bipollicaria, viridia, sanguineo seriatim maculata. Petala nivea, lineis quibusdam purpureis interruptis ad basin. Labellum vitellinum, sanguineo parcè guttulatum.

I only know this beautiful species from Messrs. Loddiges' excellent figure. Is it not rather a Cymbidium allied to C. marginatum?

25. Maxillaria subulata.

M. pseudobulbis aggregatis angustissimis oblongis sulcatis diphyllis, foliis semiteretibus subulatis, pedunculis radicalibus densissimè vaginatis pseudobulbis brevioribus, floribus patulis, sepalis oblongis acutis: lateralibus parùm obliquis, petalis obtusissimis supra columnam conniventibus, labelli trilobi cucullati unguiculati lobis lateralibus erectis intermedio ovato obtuso subundulato, callo magno in axi.

Hab. in *Brazilia*. (*v. ic. a Dom. Bauer ad plantam in Hort. Kew. floridam Novembre* 1818 *depict.*)

Folia 4 poll. longa. Flores intensè fusco-rubri, immaculati. Columna lutea interruptè vittata. Pollinia 4, per paria glandulæ lunatæ elongatæ adhærentia. Anthera scabra.

26. Maxillaria grandiflora.

M. pseudobulbis ovatis compressis diphyllis, foliis lanceolatis acutis, scapis unifloris, floribus explanatis, sepalis lanceolatis acutis lateralibus apice revolutis, petalis angustioribus, labello ovato obtuso complicato subundulato basi transversè plicato.

Dendrobium grandiflorum. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 359. *t.* 88.
Broughtonia grandiflora. *Spreng. Syst.* 3. 735.

Hab. in radicibus *Andium Puraguayensium* prope rupem *El Pupito*, villam *La Erre*, et planitiem montanam *Sacondonvensium* alt. 1060 hexap. florens Octobre; Humb. et Bonpl.

Pseudobulbi fuscescentes, nitidi, subtripollicares. Flores albi, carnosi. *Kunth.*

27. Maxillaria parvula. *Hooker Exot. Fl. t.* 217.

M. pseudobulbis oblongis incurvis subcostatis, foliis binis linearibus? obtusis, floribus solitariis, sepalo supremo petalisque parallelis lineari-lanceolatis acuminatis: lateralibus basi valdè productis triangularibus acuminatis, labello obovato cucullato repando obtuso glandulâ longitudinali oblongâ pilosâ.

Colax parvulus. *Spreng. Cur. Post.* 307.

Hab. in *Brazilia* supra truncos arborum in montibus Organ; Harrison.

Flores magni speciosi. Sepala fulvo-aurantiaca. Petala magis lutea. Labellum fusco-purpureum, apice fulvo-aurantiacum, levissimè trilobum, potius repandum dicas. Folia serotina; perfecta ignota.

b. *Scapi 2-multiflori.* Sp. 28-35.

28. Maxillaria Harrisoniæ. *Lindl. in Bot. Reg. t.* 897.

M. pseudobulbis ovatis monophyllis, foliis lanceolatis basi angustatis plicatis, scapo erecto bifloro foliis breviore, sepalis oblongis patentibus: lateralibus basi valdè obliquis connatis calcar longum spurium referentibus, labelli trilobi cucullati lobis subæqualibus rotundatis margine crispis disco elevato calloso piloso.

Dendrobium Harrisoniæ. *Hooker Exot. Fl. t.* 120.
Colax Harrisoniæ. *Lindl. in Bot. Reg. t.* 897. *Spreng. Syst. v.* 3.727.
Maxillaria Harrisoniæ. *Hooker in Bot. Mag.* 2927.

Hab. in *Brazilia* prope Rio Janeiro. (*v. v. c.*)

Inter speciosissimas generis. Flores cerini, pallidè flavi. Sepala lateralia 2 uncias longa. Labelli lobi purpurei, discus luteus. Pollinia sessilia in glandulam latam subquadratam bidentatam.

29. Maxillaria palmifolia.

M. pseudobulbis conicis striatis, foliis solitariis lato-lanceolatis in basin petioliformem angustatis acuminatis plicatis, scapis erectis multifloris secundifloris foliis brevioribus, sepalis lanceolatis acutis basi productis in calcar spurium connatis, petalis ovato-lanceolatis parùm minoribus, labello concavo curvo columnæ incumbente fauce canaliculato-striato; laminâ crassiusculâ reflexâ.

Epidendrum palmifolium. *Swartz. Prodr.* 123.
Dendrobium palmifolium. *Ib. N. Act. Ups.* 6.82. *Willd. Sp. Pl.* 4.132. *Swartz. Fl. Ind. Occ.* 3. 1527.
Colax palmifolius. *Lindl. in Bot. Reg.* 897.

Hab. in arboribus *Jamaicæ* temperatioris; Swartz.

Pseudobulbi 1-1½-unciales. Folia plus quam pedalia, petiolis 2-3-pollicaribus canaliculatis. Scapi radicales, 3-4-pollicares, squamis magnis membranaceis vaginantibus acuminatis. Flores magni, albi; *ex Swartzio.*

30. Maxillaria Warreana. *Lodd. Bot. Cab. ined.*

M. pseudobulbis foliosis, foliis oblongo-lanceolatis acuminatis plicatis, scapo radicali erecto vaginato multifloro foliis longiore, sepalis ovatis concavis acutis basi subæqualibus, petalis minoribus conformibus, labello brevissimè unguiculato obovato-oblongo indiviso cucullato obtuso jugis tribus in medio elevatis carnosis, superficie laminæ seriatim corrugatâ marginibus planis.

Hab. in *Brazilia.* (*v. v. c. comm. amic. Loddiges.*)

Sepala fulvo-lutea: lateralibus basi parùm inæqualibus nullo modo productis. Labellum basi luteum, apice pallidum, medio purpureum, cum columna vix articulatum.

31. Maxillaria racemosa. *Hooker in Bot. Mag. t.* 2789.

M. pseudobulbis ovatis compressis tetragonis monophyllis, foliis oblongo-lanceolatis tricostatis scapis gracilibus strictis multifloris brevioribus, sepalis oblongis acutis: lateralibus basi valdè elongatis in calcar spurium connatis, petalis linearibus spatulatis triplò minoribus, labello oblongo cucullato indiviso undulato emarginato in axi calloso, columnâ pubescente.

M. racemosa. *Lodd. Bot. Cab. t.* 1318. *opt.*

Hab. in *Brazilia* prope Rio Janeiro; *Harrison.* (*v. v. c.*)

Pseudobulbi 2 poll. longi. Folia 4 poll. longa, basi in petiolum angustata. Scapus pedalis. Flores sordidè flavi, membranacei. Sepala patentia: superius cum petalis parallelum Cymbidiorum more. Labellum cum sinu sepalorum lateralium articulatum, album v. sordidè flavum purpureis maculis pallidis notatum. Anth. 1-locularis. Pollinia posticè sulcata, caudiculâ brevi, glandulâ parvâ.

This species is extremely well figured in the Botanical Cabinet; the representation in the Botanical Magazine appears to have been taken from a withered specimen.

32. Maxillaria pallidiflora. *Hooker in Bot. Mag. t.* 2806.

M. pseudobulbis aggregatis cylindraceis monophyllis, folio lato-lanceolato trinervi striatoque, scapo erecto gracili pseudobulbis subæquali bracteis distantibus linearibus instructo, sepalis lateralibus basi saccum rotundatum efficientibus petalisque subæqualibus angustè lanceolatis, labello oblongo obsoletè bituberculato margine undulato.

Hab. in insula *St. Vincentii*; Guilding.

Pseudobulbi 2-4 poll. longi. Folium 4-6 poll. longum. Bracteæ nullo modo vaginantes. Flores pallidi, viridi-flavi. Pollinia in glandulam parvam sessilia.

33. Maxillaria maculata.

M. "bulbifera; foliis lanceolatis acutis, foliolis calycinis lanceolato-oblongis acutiusculis margine undulatis."

Dendrobium maculatum. *Humb. et Kunth. N. G. et Sp.* 1. 359.
Broughtonia maculata. *Spreng. Syst.* 3. 735.

Hab. in locis sylvosis provinciæ *Bracomorensis* juxta urbem *Jaen*, et pagos *Sagique* et *Pucara*; item prope cataractam *Rentemæ* in ripa fluminis Amazonum, alt. 200-680 hexap. florens Augusto; Humb. et Bonpl.

Bulbus ovatus, compressus, longè sulcatus. Folia submembranacea, pedalia et longiora. Scapus folia superans, compressus, multiflorus. Flores suaveolentes, spicati. Bracteæ sesquipollicares, acutæ, carinatæ. Flores patentes, virides, fusco-maculati, pollicares. Sepala duplò latiora. Labellum oblongum, acutum, undulatum, album, striis violaceis longitudinalibus pictum, basi unguiculatum. Pollinia 4. *Ex Kunth.*

34. Maxillaria latifolia.

M. "terrestris, foliis obovato-oblongis acutis, basi angustatis trinerviis membranaceis, foliolis calycinis oblongo-lanceolatis, labello oblongo."

Dendrobium latifolium. *Humb. et Kunth. N. G. et Sp.* 1. 360.

Hab. in *Andibus Pastoensibus,* inter flumina *Guaytara,* et *Mayo,* juxta *Meneses, Voisaco,* et pagum *La Cruz* alt. 800-1000 hexap. florens Octobre; Humb. et Bonpl.

Terrestris. Folia pedalia et longiora, vix 4 poll. lata. Scapus 2-ped. multiflorus. Flores spicati, flavo-rosei, subbilabiati, patuli. Petala acuta, sepalo superiore breviore. Labellum cucullatum, apice reflexum, basi unguiculatum, sepalis duplò brevius, apicem versus punctis 5 aurantiacis pictum. Anthera ignota. Ex *Kunth.*

35. Maxillaria longifolia.

M. "terrestris; foliis lineari-lanceolatis acutis novem-nerviis membranaceis, foliolis calycinis lanceolatis acutis, labello ovato undulato-crenato."

Dendrobium longifolium. *Humb. et Kunth. N. G. et Sp.* 1. 360.
Xylobium? longifolium. *Lindl. in Bot. Reg.* 732. *Spreng. S. V.* 3. 732.

Hab. in temperatis humidis Provinciæ *Popayanensis* inter montem *Pitatumbæ,* villam *Guayacanes* et urbem *Almaguer,* alt. 1380 hex.; florens Novembre; Humb. et Bonpl.

Terrestris. Folia pedalia, pollicem lata. Scapus bipedalis, multiflorus. Bracteæ lineari-subulatæ. Flores patuli. Sepala 6-7 lin. longa. Petala paulò latiora et tenuiora. Labellum obtusum, basi cucullatum, unguiculatum, margine sinuato-reflexum, purpureum, interius papillis 2 striis setisque nigrescentibus obsitum (barbatum?). Columna virescens, basin versus maculâ purpureâ notatum. Anth. ignota. *Ex Kunth.*

* * Labellum posticum. (Xylobium.) Sp. 36—37.

36. Maxillaria decolor. *Lindl. in Bot. Reg.* 1549.

M. pseudobulbis oblongis compressis, foliis solitariis oblongo-lanceolatis plicatis utrinque acuminatis, scapo radicali multifloro vaginato foliis breviore, sepalis ovato-oblongis obtusis patentibus, petalis duplò minoribus conniventibus, labello postico obsoletè trilobo obtuso cucullato callis 5 clavatis parallelis æquilongis ultra medium procurrentibus.

Hab. in *Jamaica, Hort. Angl.* (*v. v. c.*)

Folia diversæ formæ et magnitudinis, nunc 8 poll. longa, 3 p. lata, nunc 18 p. longa, 2 p. lata. Scapus 4-pollicaris. Flores ochroleuci, immaculati.

37. Maxillaria squalens. *Hooker in Bot. Mag. t.* 2955.

M. pseudobulbis ovatis teretibus diphyllis, foliis lanceolatis plicatis basi valdè angustatis, scapo racemoso multifloro vaginato pseudobulbis duplò longiore, sepalis petalisque ovato-lanceolatis subundulatis acutis, labelli trilobi postici lobo intermedio ovato subundulato calloso.

Dendrobium squalens. *Lindl. in Bot. Reg. t.* 732. *Lodd. Bot. Cab. t.* 1059.
Xylobium squalens. *Id. fol.* 897.

Hab. in *Brazilia* prope Rio Janeiro. (*v. v. c.*)

Flores sordidè lutei, labello apice purpureo. Pollinia posticè sulcata in glandulam lunatam sessilia.

§. 3. *Spathacea.* Pedunculi terminales, e spatha vaginante erumpentes. Caules cylindracei, non bulbosi. (Nothium.) Species recognoscenda, habitu omninò Cattleyæ. Sp. 38.

38. Maxillaria ? spathacea.

M. caulibus cylindraceis sulcatis, foliis solitariis ovato-oblongis obtusis subemarginatis planis coriaceis, pedunculo terminali e vagina complicata oblonga acinaciformi erumpente, racemo 3-5-floro, sepalis lateralibus basi valdè productis calcar spurium formantibus, labelli obovati cucullati trilobi lobis lateralibus rotundatis subdentatis intermedio ovato.

Hab. in *Brazilia,* Boaz. (*exam. s. sp. in herb. Hooker.*)

Species pulchra, floribus M. Harrisoniæ facie et magnitudine. Pollen et Anthera ignotæ.

Dubiæ.

39. Maxillaria ? aggregata.

M. " caule ramoso repente foliato, foliis distichis lanceolatis obtusis, floribus terminalibus aggregatis."

Dendrobium aggregatum. *Humb. et Kunth. n. g. et sp.* 1. 358.

Hab. in crepidinibus *Andium* mitioris temperiei, inter villam *Meneses* et urbem *Pasto* alt. 1480 hexap. florens Novembri, Humb. et Bonpl.

Folia coriacea, sesquipollicaria aut paulò longiora, vix 4 lineas lata. Flores plures ad apicem ramorum aggregati, patuli. Sepala ovato-lanceolata, acuta, striata, 3 lin. longa: lateralibus planiusculis, basi ungui labelli adnatis. Petala lanceolata, acuminata, striata, sepalis paulò breviora et tenuiora. Labellum unguiculatum, ovatum, obtusum, carinatum, apice revolutum. Pollinia 4. ex *Kunth.*

40. Maxillaria lyncea.

Coatzonte Coxoahitl seu Lyncea. *Hernand. Thesaur. Rer. Med. Nov. Hisp. p. 266.*
Anguloa Hernandezii. *Kunth. Synops.* 1. 332.

Hab. in *Mexico*; Hernandez.

LXXXI. ARPOPHYLLUM.

Arpophyllum. *La Llave et Lexarz.* 2. 19.

Perianthium patulum. Sepala lateralia basi in gibbum connata. Petala multò angustiora. Labellum cum basi productâ columnæ articulatum ?, indivisum, concavum, breviùs calcaratum. Columna erecta. Pollinia 8, pyriformia, inter se "manipulis glutinosis ligata."——Epiphyta, ebulbis. Scapus e sinu folii coriacei ortus. Flores parvi, densè spicati.

Char. ex autoribus citatis.

The manner in which this plant is described leaves me in doubt whether it may not belong to Epidendreæ rather than to Vandeæ. It is apparently nearly related to Maxillaria; and is perhaps not distinct from Appendicula.

1. Arpophyllum spicatum. *Lexarz. et Llav. l. c.*

Hab. in *Mexico,* juxta *Arumbaro,* florens Septembre et Octobre; La Llave.

Planta epiphyta, ebulbis. Caules cylindrico-depressi, membranulis scariosis involuti. Folia solitaria, crassa, coriacea, longissima, canaliculata, falciformia. Spatha membranacea, colorata, monophylla, lateraliter dehiscens, liquorem glutinosum stillans. Scapus conico-elongatus, purpurascens, teres. Flores parvi, dilutè purpurei, sessiles, glutinosi, innumeri, in spicam cylindraceam densissimè conglomerati; *ex Llave.*

LXXXII. BIFRENARIA.

Sepala patula, libera, subæqualia; lateralia cum basi productâ columnæ adnata, vix basi obliqua. Petala sepalis duplò minora. Labellum cum pede mucronato columnæ articulatum, cucullatum, trilobum, medio callosum. Columna brevis, semiteres, mutica. Anthera mutica, subcristata. Pollinia 4, per paria incumbentia, caudiculis duabus distinctis materiei viscidæ rostelli adhærentibus, glandulâ .... ——Epiphyta, pseudobulbosa, Maxillariæ (Colacis) habitu.

Nearly related to Maxillaria, especially to the Colax division; but distinct in its double caudicula, and want of an obvious gland.

1. Bifrenaria atropurpurea.

Maxillaria atropurpurea. *Lodd. Bot. Cab. t.* 1877.

Hab. in *Brazilia,* prope Rio Janeiro; *Warre. (v. v. c. comm. amic. Loddiges.)*

Pseudobulbi ovati, obtusi, tetragoni. Folia oblongo-lanceolata, plicata, solitaria. Racemi radicales, 3-flori, pseudobulbis paulò longiores. Flores atropurpurei, odoratissimi. Labellum lobis lateralibus brevibus divergentibus, intermedio transverso sub-3-lobo revoluto suberoso; callus in medio anticè tridentatus.

LXXXIII. DICRYPTA.

Heterotaxis. *Lindl. in Bot. Reg. t.* 1028, *charactere erroneo.* Dicrypta. *Supra p.* 44.

Sepala libera, erecta, æqualia. Petala conformia, paulò minora. Labellum oblongum, obsoletè trilobum, carnosum, cum columna articulatum, callo elevato interrupto disci. Columna cum ovario continua, semiteres, ad basin anticè clavata. Clinandrium convexum. Anthera obsoletè bilocularis. Pollinia 4, complanata, incumbentia (8 8): posticis minoribus, caudiculâ brevi lineari, glandulâ lunatâ.——Herba epiphyta, acaulis. Folia coriacea, ligulata, cum basi nunc bulbosa articulata. Flores solitarii, axillares, pedunculis vaginatis.

1. Dicrypta Baueri.

Heterotaxis crassifolia. *Lindl. in Bot. Reg. t.* 1028. *Lodd. Bot. Cab. t.* 1651.

Hab. in *Jamaica,* sec. hortulanos; an potiùs in Brazilia? *(v. v. c.)*

This plant is a memorable instance of the danger of describing Orchideous plants from imperfect cultivated specimens. I first met with it in 1824, in Mr. Lee's Nursery at Hammersmith when I found the pollen masses, in the words of my notes at that time made, "*linearia hinc crassiora, e granulis plurimis minutis angulatis filo axili cohærentibus.*" I accordingly introduced this character into the definition of the genus Heterotaxis, which in fact received its name because it was as it were of two different orders, being a Vandea in appearance and an Arethusea in structure. Subsequently in 1830 when I for the first time saw, in Mr. Bauer's Portfolio, an analysis of this same plant, its pollen was represented so differently that I did not recognise it to be Heterotaxis, but took it for a new genus and called it Dicrypta. Mr Bauer had drawn the pollen masses as four, lying in pairs one upon the other so that the external masses which are the largest concealed the internal ones, whence the name. Neither gland nor caudicula having been found by Mr. Bauer I referred the plant to Malaxideæ. My

surprise then may be easily imagined when, about the end of January 1832, I saw in Mr. Bauer's possession a drawing of the plant of Dicrypta Baueri from which had been taken the analysis of the flower I had described, and recognised it to be my Heterotaxis crassifolia; nor was this surprise diminished when, upon the occasion of the species flowering in the Horticultural Society's Garden on the 24th of April 1832, I finally ascertained that not only was my original description in 1824 wholly erroneous, but that Mr. Bauer's drawing, otherwise admirably correct, was wrong in representing the pollen-masses without caudicula or gland. I found them to be seated upon a narrow short caudicula with a broad narrow lunate gland; and this is no doubt the true structure.

I am thus obliged to reproduce Dicrypta in its more correct position and to request that the genus may be erased from the station formerly assigned it among Malaxideæ. I abolish the name Heterotaxis because it was given in mistake.

LXXXIV. GOVENIA.

Govenia. *Lindl. in Lodd. Bot. Cab. t.* 1709.

Perianthium bilabiatum. Sepala lateralia falcata, labello supposita, basi paululum connata, supremo paulò majora. Petala sub sepalo supremo conniventia, breviora, obliqua. Labellum integerrimum, ecalcaratum, concavum, cum basi parum productâ columnæ articulatum, sessile. Columna basi paulò producta, teres, subfusiformis, apice utrinque marginata. Anthera calyptriformis, 1-locularis. Pollinia 4, solida, incumbentia, caudiculâ brevi, glandulâ minore triangulari.——Terrestris. Folia plicata. Spicæ radicales, multifloræ. Flores speciosi.

1. Govenia superba. *Lindl. l. c.*

Maxillaria superba. *Lexarz. et Llave Orch. Mex.* 2. 13.

Hab in montibus *Mexici*, prope *Vallisoletum*, florens Augusto; Llave. (*v. v. c. comm. amic. Loddiges.*)

Flores aurantiaci, sanguineo-maculati. Petala cuneata, collateralia, cuspidata, basi valdè obliqua.

LXXXV. ALAMANIA.

Alamania. *La Llave et Lexarz. Nov. Veg.* 31. (1825.)

Perianthium patens, æquale. Sepala lateralia basi connata, calcar referentia. Labellum petalis conforme, basi glandulosum aut tuberculatum. Columna carnosa, tricuspidata, aptera, basi in calcar tubulosum producta. Anthera 4-locularis. Pollinia 4, pedicellata.——Herba epiphyta, pumila, pseudobulbosa. Scapi simplices multiflori. Flores speciosi.

Char. ex aut. citat. An partes rectè descriptæ? An caudicula polliniorum simplex, duplexve?

1. Alamania punicea. *La Llave et Lexarz. l. c.*

Hab. super arbores *Mexici* in monte excelso *Quinzeo*, prope *Vallisoletum*; La Llave.

Planta exigua. Pseudobulbilli oblongi, conferti, subdiphylli, membranis scariosis tecti. Folia ovata, crassa, acuminata, fusca. Scapus terminalis,

bipollicaris, coloratus. Flores punicei, inodori. Labellum glandulâ baseos lutescenti. Anthera atropurpurea.

LXXXVI. PSITTACOGLOSSUM.

Psittacoglossum. *La Llave et Lexarz. Nov. Veg.* 29. (1825.)

Perianthium patens. Sepala elongata, lanceolata; duobus lateralibus infra labellum paulò connatis. Petala conformia, angustiora, incurva. Labellum crassum, scabrum, obscurè auriculatum, ad unguem tuberculo concavo! instructum. Columna clavata, incurva, subtriquetra. Anthera 2-locularis, (petaloideo-mitrata Llav.) Pollinia 4, lenticularia; exterioribus majoribus, caudiculâ .... glandulâ ....—— Herba epiphyta. Pseudobulbi ancipites, monophylli. Scapus uniflorus, squamis imbricatis vestitus. Flos magnus atropurpureus.

Character ex autoribus citatis.

1. Psittacoglossum atratum. *La Llave et Lexarz. l. c.*

Hab. in *Mexico,* supra arbores inter lichenes, prope *Jesus del Monte*; Llave. Floret vere.

Pseudobulbi conferti, subrotundi, oblongi, depressi, ancipites, 1-phylli. Folia oblongo-lanceolata, lævigata, conduplicata. Scapus radicalis, brevis, squamulis membranaceis, cuneatis, vaginantibus, distichè imbricatis tectus. Flos magnus, atropurpureus, terminalis, erectus. Labellum concolor, nigricans; *ex Llave.*

LXXXVII. CYCNOCHES.

Cycnoches. *Lindl. in Lodd. Bot. Cab. ined.*

Perianthium explanatum. Sepala lateralia lanceolata, basi paululùm sub labello connata; supremo angustiore. Petala latiora, falcata, decurva. Labellum liberum, ecalcaratum, columnâ continuum, lanceolatum, integerrimum, ungue abrupto calloso. Columna elongata, arcuata, teres, apice clavata, auriculis duabus falcatis ad latera clinandrii. Anthera bilocularis. Pollinia 2, posticè sulcata, subpedicellata, caudiculâ lineari, glandulâ grossâ.——Habitus Cataseti.

1. Cycnoches, Loddigesii. *Lindl. l. c.*

Hab. in *Surinami, Loddiges.* (*v. v. c. comm. amic. Loddiges.*)

Flores maximi, viridifusci. Labellum album, sanguineo-guttatum, apice virescens.

Of this most remarkable plant I have only seen a single expanded flower, from which this account has been taken.

LXXXVIII. MYANTHUS.

Myanthus. *Lindl. in Bot. Reg.* 1538.

Perianthium explanatum. Sepala libera, æqualia, lateralibus paululùm ascendentibus. Petala conformia, angustiora, sepalo supremo supposita.

Labellum planum, obovatum, 3-dentatum, sepalis brevius. Columna erecta, teres, basi bicirrhosa, posticè ad cardinem antheræ longè producta. Anthera et pollinia Cataseti.——Epiphyta, Cataseti omninò vegetatione.

Catasetum cristatum is intermediate between this genus and Catasetum.

1. Myanthus cernuus. *Lindl. l. c.*

Hab. supra arbores *Braziliæ,* prope Rio Janeiro. (*v. s. sp. et ic. pict. in herb. Hooker.*)

Racemi cernui, pedales, v. ultra. Flores luteo-virides, punctis atropurpureis confertissimis notati.

LXXXIX. CATASETUM.

Catasetum. *Richard. in Kunth. Synops.* 1. 330.

Perianthium sæpius globosum, nunc explanatum. Sepala et petala subæqualia. Labellum crassum, carnosum, nudum ventricosum, v. explanatum fimbriatum; sub apice saccatum, obsoletè trilobum. Columna erecta, aptera, libera, apice utrinque cirrhosa. Anthera subbilocularis, anticè truncata. Pollinia 2, posticè biloba v. sulcata, caudiculâ maximâ nudâ demum elasticè contractili, glandulâ cartilagineâ subquadratâ.——Herbæ terrestres v. epiphytæ, caulibus brevibus fusiformibus vestigiis foliorum vestitis. Folia basi vaginantia, plicata. Scapi radicales. Flores speciosi, racemosi, virides, nunc purpureo-maculati.

1. Catasetum maculatum. *Kunth. Synops.* 1. 331.

C. "foliolis calycinis duobus interioribus maculatis; labello ciliato."

Hab. in Regno *Novo-Granatensi,* prope *Turbaco,* alt. 180 hexap. florens Maio; Kunth.

Folia membranacea, tripollicaria. Sepala angustiora, viridia; duo lateralia cornuum in modum arcuatìm patentia; tertium petala amplectentia. Petala ovata, margine subserrata, infernè nigro-maculata. Labellum maximum, inflatum, margine ciliatum, infernè rubro-maculatum; ex Kunth.

2. Catasetum tridentatum. *Hooker. Exot. Fl. tt.* 90. 91.

C. foliis oblongo-lanceolatis acuminatis, perianthiis compressis conniventibus, sepalis petalisque acuminatis, labello cucullato apice tridentato.

C. tridentatum. *Bot. Mag.*
? C. macrocarpum. *Rich. in Kunth. Synops.* 1. 331.
C. Claveringi. *Lodd. Bot. Cab. t.* 1344.

β. Floribus majoribus, sepalis petalisque acutis.

C. Claveringi. *Lindl. Bot. Reg. t.* 840.
C. floribundum. *Hooker. Exot. Fl.* 151.

Hab. in *America æquinoctiali*; in insula *Trinitatis. Hooker*; β. in *Brazilia* ad sinum Sancti Salvatoris, nec non in insula *Trinitatis*; *Hooker.* (*v. v. c.*)

Sepala viridia v. luteo-viridia. Petala viridia purpureo plus minus maculata, nunc omnino purpurea. Labellum apice sæpius vitellinum, intùs plerùmque maculatum.

I am persuaded these are all varieties, or rather states, of the same species, which flowers very differently in different states of health. C.

Claveringi has indeed less acuminate petals and sepals, and larger flowers, but these are but slender distinctive marks; and C. floribundum differs from the last in nothing but its greener flowers with a less internal spotting. I have also seen varieties with smaller flowers, and other marks of difference, but they are not worth notice.

Most likely Richard's C. macrocarpum from Cayenne belongs here. At least there is nothing in the half dozen words said about it by Mr. Kunth to shew the contrary.

3. Catasetum Hookeri. *Lindl. Coll. Bot. t.* 40.

C. foliis lanceolatis triplicatis, perianthiis globosis, labello apice incurvo: lateribus denticulatis.

Hab. in *Brazilia*; *Swainson.* (*v. v. c.*)

Flores in genere minores, sepalis subtestaceis, petalis viridibus, labello viridi, apice luteo, intùs purpureo maculato.

4. Catasetum semiapertum. *Hooker. Exot. Fl. t.* 213.

C. foliis oblongo-lanceolatis multiplicatis racemo compacto longioribus, perianthiis subpatentibus, labello apice incurvo: lateribus denticulatis.

Hab. in *Brazilia*; Hooker.

Flores virides, unicolores, salvo apice luteo labelli; majores quam in *C. Hookeri* cui proximum locetur.

5. Catasetum purum. *Nees ab Esenb. Plantarum in h. med. Bonnens. Icon. p.* 1. *t.* 1.

C. foliis lineari-lanceolatis, perianthio patente obsoletè punctato, labello ventricoso apice incurvo concolore ciliato integerrimo.

Hab. in *Brazilia*; Nees ab Esenb.

Planta rarissima, in anno 1824 in Horto medico Bonnensi sub auspiciis Sinningii hortulani periti floruit. C. lurido valdè similis est, sed folia hujus quadruplò latiora; an eadem?

Flores virides immaculati, v. vix maculati, magnitudine *C. Hookeri.*

6. Catasetum luridum.

C. foliis oblongis 5-plicatis, perianthio globoso vix maculato, labello ventricoso concolore apice recto integerrimo.

Angulоa lurida. *Link. in Verhandl. des Vereins. Z. bef. des Gartenb. in dem Königl. Preuss. Staat.* 1. *p.* 289. *t.* 6.

Hab. in *Brazilia*; Link.

C. Hookeri simillimum; verosimiliter diversum foliis latioribus, labello minùs maculato et minùs apice incurvo, nec ad marginem denticulato. An idem ac *C. semiapertum?* diferre videtur labelli marginibus integerrimis, nec serrulatis.

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7. Catasetum cristatum. *Lindl. in Bot. Reg. t.* 966.

C. foliis oblongo-lanceolatis multiplicatis, perianthiis explanatis, sepalo supremo petalisque conniventibus, labello fimbriato cristatoque expanso.

Hab. in *Brazilia* ad sinum Si. Salvatoris; *G. Don.* (*v. v. c.*)

Flores virides; labellum album fimbriis clavatis.

Myanthus esset, si saccus labello abfuit cirrhique ab apice columnæ.

XC. MONACHANTHUS.

Monachanthus. *Lindl. in Bot. Reg.* 1538.

Perianthium explanatum. Sepala et petala æqualia, deorsùm versa. Labellum posticum, carnosum, indivisum, ventricosum, sepalis multò majus. Columna brevis, crassa, mutica. Anthera.... Pollinia.... Epiphyta, Cataseti habitu.

This genus differs from Catasetum in the want of cirrhi upon its short column, and in the expanded perianthium, the five segments of which are turned all one way, like those of Eulophia.

1. MONACHANTHUS viridis.

Hab. in *Brazilia,* supra arbores in Corcovado. (*v. ic. pict. et s. sp. in herb. Hooker.*)

The fleshy stems are exactly those of Catasetum, as are the leaves, except that they are shorter. In the drawing I have examined, the flowers are represented in pairs from the apex of an erect scape about 9 inches high: they are fleshy, and of a deep uniform green, with a labellum that looks something like a hood drawn over a little face represented by the column.

XCI. STANHOPEA.

Stanhopea. *Hooker in Bot. Mag.* 2948-9. (*Nov.* 1829.)——Ceratochilus. *Lindl. in Lodd. Bot. Cab.* 1414, non Blumii.

Perianthium membranaceum, patentissimum v. reflexum. Sepala libera, subundulata, mole suâ ruentia. Petala conformia angustiora. Labellum liberum, anticum, ecalcaratum, carnosum, utrinque cornutum; dimidio superiore (epichilio) convexo, inferiore (hypochilio) excavato. Columna longissima, petaloideo-marginata. Anthera 2-locularis. Pollinia 2, elongata, fissa, caudiculâ quàm glandula biloba stipitata breviore. ——Epiphytæ pseudo-bulbosæ. Folia plicata. Scapi radicales, vaginati, pauciflori. Flores maximi magis minùsve maculati.

1. Stanhopea insignis. *Hooker l. c.*

S. labello medio quàm maximè constricto, hypochilii subrotundi lateribus cornutis incurvis, epichilio ovato medio depresso cornubus duobus baseos incurvis.

Epidendrum grandiflorum. *Humb. et Bonpl. Pl. æq. p.* 94. *t.* 27.
Anguloa grandiflora. *Id. n. g. et sp. pl.* 1. 343. *Kunth. Synops.* 1. 332. *Spreng. Syst.* 3. 726.

Hab. supra arborum vetustarum truncos in umbrosis sylvis prope *Cuença* in *Quito*; Humb. et Bonpl. (*v. v. c.*)

Sepala carnosa, flava, intùs sanguineo guttata. Petala undulata, reflexa, minùs lutea, sanguineo interruptè fasciata. Labellum albidum, atrosanguineo densè guttatum.

2. Stanhopea Bucephalus.

S. labello medio constricto, hypochilio cymbiformi utrinque carinato marginibus muticis, metachilio subtus calloso pulvinato marginibus carnoso-petaloideis auriculatis carinatis inflexis sublobatis, epichilio ovato-lanceolato basi bicorni: cornubus spatulatis carnosis divaricatis elongatis.

Hab. in *Mexico*; *Ruiz. et. Pavon.* (*exam. s. sp. in Hort. Lambert.*)

Folium fere pedale, in petiolum longum angustatum, membranaceum, parùm plicatum. Flores magnitudine S. oculatæ. Sepala lateralia lanceolata angusta et petala undulata. Hypochilium metachilio longius a fronte angustatum. Epichilii cornua metachilio et hypochilio simul sumptis longitudine æqualia; lamina verosimiliter concava basi angustata, cornubus longior, basi squamulâ recurvâ aucta. Flores duos apertos et folium unicum chartæ agglutinatum tantum vidi.

3. Stanhopea grandiflora.

S. labello oblongo non medio constricto, hypochilio pone basin bicorni, epichilio ovato acuto, metachilio duplò longiore solido plano-convexo anticè truncato tridentato, scapo erecto bifloro petalis breviore.

Ceratochilus grandiflorus. *Loddiges Bot. Cab. t.* 1414.

Hab. in insula *Trinitatis*; *Loddiges.* (*v. v. c. comm. amic. Loddiges.*)

Flores candidi.

4. Stanhopea eburnea. *Lindl. in Bot. Reg. t.* 1529.

S. labello oblongo non medio constricto, hypochilio pone basin bicorni, epichilio ovato-oblongo obtuso, metachilio duplò longiore solido plano-convexo anticè truncato bidentato, scapo pendulo bifloro petalis duplò longiore.

Hab. in *Brazilia*, prope Rio Janeiro; *Loddiges.* (*v. v. c. comm. cl. Bateman.*)

Scapi penduli, biflori, cum ovario 4½ poll. longi. Vaginæ laxæ, ovatæ, obtusæ, internodis vix æquales. Flores candidi. Sepala oblongo-lanceolata, 2½ poll. longa, 1¼ lata. Petala conformia, angustiora. Labellum cornubus è medio margine hypochilii, metachilioque lineis quibusdam interruptis purpureis notatis.

5. Stanhopea oculata.

S. labello medio constricto, hypochilii elongati lateribus cornutis erectis basi bimaculatis, epichilio ovato acuminato cornubus duobus baseos incurvis.

Ceratochilus oculatus. *Lodd. Bot. Cab. t.* 1764.

Hab. in *Brazilia*, *Loddiges.* (*v. v. c.*)

Flores pallidè lutescentes, maculis plurimis sanguineis ocellatis conspersi. Labellum hypochilio vitellino, utrinque maculâ atropurpureâ ovali magnâ notatum.

XCII. GONGORA.

Gongora. *Fl. Peruv. Prodr.* 117. *t.* 25.

Perianthium explanatum. Sepala lateralia libera divaricata; supremum cum dorso columnæ connatum. Petala minora, columnæ medio adnata. Labellum cum basi columnæ continuum, liberum, unguiculatum, hypochilio explanato utrinque cornuto, epichilio verticali ancipiti (faciebus oppositis complicatis connatis) acuminato. Columna longissima, arcuata, clavata, marginata. Anthera subbilocularis. Pollinia 2, linearia, in caudiculam cuneatam sessilia.——Herbæ epiphytæ pseudobulbosæ. Folia plicata. Racemi longissimi, flexuosi, multiflori.

1. Gongora atropurpurea. *Hooker Exot. Fl. t.* 178.

G. foliis multiplicatis, sepalis e lata basi acuminatis, hypochilio sub-4-cornuto denticulis interjectis.

Hab. in insula *Trinitatis*; Hooker.

Pseudobulbi costati. Racemi bipedales. Flores atropurpurei, immaculati.

2. Gongora quinquenervis. *Fl. Peruv. Syst.* 227.

G. foliis 5-plicatis lanceolatis, sepalis concavis basi angustatis, hypochilio bicorni dorso calloso.

Hab. in sylvis *Pozuzo* supra arbores; Ruiz et Pavon. Floret Augusto. Septembre et Octobre.

Flores luteo-purpurascentes; *ex Fl. Per.*

XCIII. CORYANTHES.

Coryanthes. *Hooker. Bot. Mag.* 3102.

Perianthium patentissimum. Sepala dilatata, flexuosa, conduplicata; lateralibus maximis, basi distinctis. Petala multò minora erecta. Labellum unguiculatum, maximum, galeatum, cum basi columnæ continuum, nullo modo articulatum, tridentatum, in medio unguis appendice poculiformi circumdatum. Columna teres, basi bicornis, elongata, apice recurva, bialata. Stigma rima transversa. Anthera bilocularis. Pollinia 2, compressa, posticè sulcata, caudiculâ lineari arcuatâ, glandulâ lunatâ apicibus approximato-recurvis.——Herbæ epiphytæ, pseudobulbosæ. Folia striata. Racemi penduli. Flores maximi.

1. Coryanthes speciosa. *Hooker l. c.*

C. foliis angustè lanceolatis, scapis erectis bifloris, labello unicolore.

Gongora speciosa. *Hooker in Bot. Mag. t.* 2755.

Hab. in *Brazilia* præsertim supra arbores in collem *Victoria* dictum prope sinum Si. Salvatoris, ubi cæspites latos efficit. (*v. v. c. comm. cel. Harrison.*)

Flores odorem subingratum spirant.

The two horns at the base of the column secrete from their points a great quantity of honey, which is caught in the cup-like appendage of the lip. Mr. Harrison informs me that the sepals when newly expanded open out flat like a bat's wing, and that they are approaching the period of withering when in the state represented in Dr. Hooker's plate.

2. Coryanthes maculata. *Hooker in Bot. Mag. t.* 3102.

C. foliis lato-lanceolatis, scapis nutantibus multifloris, labello intùs purpureo-maculato.

Hab. in sylvis *Demeraræ*, supra arbores; Parker.

Scapi floribus 5 maximis onusti et decurvi.

3. Coryanthes macrantha. *Hooker l. c.*

C. foliis ...., scapis ...., labello basi utrinque quatèr plicato: plicis deflexis.

Gongora macrantha. *Hooker in Bot. Miscell. t.* 80.

Hab. in *Caraccis*; Lockhart.

Flores maximi generis. Columna basi utrinque auriculata.

XCIV. ANGULOA.

Anguloa. *Fl. Peruv. Prodr.* 118. *t.* 26.

Perianthium clausum, globosum. Sepala et petala libera, concava, subæqualia. Labellum longè unguiculatum, cucullatum, bilobum, lacinulâ intermediâ reflexâ. Columna semiteres, clavata, apice bicornis. Anthera rostrata. Pollinia 2, caudiculâ lanceolatâ, (bifidâ?) glandulâ parvâ ovali.——Herba pseudobulbosa. Folia plicata. Scapi uniflori.

Character ex Fl. Peruvianâ.

1. Anguloa uniflora. *Fl. Peruv. Syst. p.* 228.

A. " bulbis ovatis ancipitibus, foliis lanceolatis 7-nervibus plicatis, scapis unifloris."

Hab. in *Muña* et *Chincao* runcationibus, vernaculè Carpales dictis, et profusè in *Tarmæ* nemoribus ad *Huayahal, Chanchamayo et Siusa* tractus; floret Augusto et Septembre; Ruiz et Pavon.

2. Anguloa superba. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 343. *t.* 93. *Kunth. Synops.* 1. 332.

A. " foliis subtrinerviis, pedunculis multifloris, calycibus clausis."

Periquito *Hispanorum.*

Hab. supra arbores in temperatis Provinciæ Tumbezensis, juxta *Zæruma Peruvianorum*, et pagum *Catacocha*; colitur in hortis Loxensibus, alt. 1050 hexap.; floret Julio; Humboldt et Bonpl.

Odorem dulcem, nec tamen suavem spirat. Pseudobulbi oblongi, striato-costati, monophylli. Folia petiolata, oblongo-lanceolata, acuminata, undulata, 10-poll. longa. Scapus pauciflorus, folio brevior. Perianthium subglobosum, foliolis coriaceo-carnosis, rubris, maculis purpureis variegatis. Labellum posticum, infernè angustatum, supernè trilobum, purpureo-maculatum, medio zonâ transversali albâ notatum, tuberculisque 2 alæformibus instructum: lobis lateralibus rotundatis intermedio emarginato latioribus. Columna subalata, carnosa, brevis, nivea, basi margine punctis raris picta. *Ex Kunth.*

XCV. PERISTERIA.

Peristeria. *Hooker Bot. Mag.* 3116.

Perianthium globosum. Sepala basi subconnata, concava, basi labello connata. Petala conformia, paulò minora. Labellum erectum medio articulatum; dimidio superiore obovato truncato medio pulvinato inferiore bilobo columnâ continuo. Columna erecta, semiteres, basi magnâ dilatatâ. Anthera ecristata, bilocularis. Pollinia 2, posticè fissa, glandulâ sessili nudâ rostellum involvente.——Herba subterrestris, pseudobulbosa. Folia plura, plicata. Scapi vaginati, radicales, multiflori. Flores speciosi.

1. Peristeria elata. *Hooker l. c.*

Hab. in *Panama*, ubi vernaculè appellatur *El Spirito Santo.* (*v. v. c. comm. cel. Harrison.*)

Pseudobulbus ovatus, ovi cygnei magnitudine, folia 3-5 gerens, 2-3-pedalia, 6 poll. lata, lanceolata, acuta, plicata. Scapus 4-pedalis, multiflorus. Flores albidi, globosi, odorem subaromaticum debilem spirantes. Labellum cum columna continuum nec articulatum, tripartitum, lobo medio (epichilio) cum inferiore elasticè articulato, carnoso, convexo, purpureo-punctato, apiculato, bicorni; cornubus tenuibus planis obtusis porrectis subdenticulatis; lobi laterales in medio tuberculo depresso, angulato, acuto, augentur.

XCVI. EUCNEMIS.

Sepalum supremum cum petalis parallelum galeam referens; lateralia labello indiviso inappendiculato supposita, cum pede parùm producto columnæ connata. Columna alato-marginata. Pollinia 4, collateralia (oo oo), per paria connata, caudiculâ lineari, glandulâ parvâ.——Folia plicata, membranacea, ex ochrea infundibulari exserta. Scapus terminalis, distanter vaginatus, multiflorus. Flores bilabiati.

1. Eucnemis brevilabris.

Hab. in *Mexico; Ruiz et Pavon.* (*exam. s. sp. in herb. Lambert.*)

Folia oblongo-lanceolata, basi valdè angustata, plicata. Scapus foliis longior. Bracteæ oblongæ, acutæ, ovario longiores. Alabastri acinaciformes, obtusissimi. Labellum ovatum planum, membranaceum, indivisum.

XCVII. CYMBIDIUM.

Cymbidium. *Swartz. Nov. Act. Ups.* 6. 70.——Camaridium. *Lindl. in Bot. Reg. t.* 844.

Perianthium explanatum, petalis sepalisque subæqualibus liberis. Labellum sessile, liberum, ecalcaratum, concavum, cum basi columnæ nunc articulatum, nunc leviter connatum, indivisum v. trilobum. Columna erecta, semiteres. Anthera bilocularis. Pollinia 2, sæpius posticè biloba, in glandulam subtriangularem subsessilia.

Cymbidium, as understood in this work, is no doubt made up of several very different genera, the characters of which, from want of sufficient information and the knowledge of a greater number of species, cannot be positively made out. I presume each section will be hereafter recognised as distinct, for which reason I have given them names which may be retained either as generic or sectional.

The first, or the Eucymbidia, are the genuine species, all of which have two lamellæ more or less distinctly shewn upon the lip——*Camaridium* might perhaps have been safely continued separate.——*Bolbidium* is very near Maxillaria.——*Angidium* is altogether distinct, but I am not sure that I have made out its characters rightly.

§ 1. Acaulia, ebulbia, foliis sæpiùs ensiformibus, floribus galeatis, labello lamellâ duplici. (Eucymbidium.)
§ 2. Caulescentia, ebulbia. (Pseudo-Vanda.)
§ 3. Caulescentia, axillis pseudobulbiferis, floribus non galeatis. (Camaridium.)
§ 4. Rhizoma repens, pseudobulbos 1-2-phyllos gerens. (Bolbidium.)
§ 5. Acaulia, tuberosa, foliis plicatis, columnâ alatâ, labello indiviso nudo. (Angidium.)
† Species dubiæ.

§ I. *Acaulia, ebulbia, foliis sæpiùs ensiformibus, floribus galeatis, labello lamellâ duplici.* (Eucymbidium.)

1. Cymbidium sinense. *Willd. Sp. Pl.* 4. 111.

C. foliis lanceolato-ensiformibus subcarnosis striatis, scapis erectis multifloris, bracteis ovario subæqualibus, sepalis petalisque oblongo-lanceolatis (vix striatis,) labello oblongo obtuso indiviso revoluto: lamellis arcuatis apice dilatatis conniventibus.

Epidendrum sinense. *Andr. Bot. Rep.* 3. *t.* 216. *Bot. Mag.* 888.
C. fragrans. *Salisb. in Hort. Trans.* 1. 261.

Hab. in *China.* (*v. v. c.*)

Flores fusco-purpurei odoratissimi, labello luteo-viridi maculato.

Adest speciei alterius icon in Bibl. Hort. Soc. Lond. (*C. floribundim.*) a C. sinense diversæ floribus numerosissimis minoribus, sepalis obtusis, labello trilobo sanguineo medio luteo.

2. Cymbidium ensifolium. *Swartz. Nov. Act. Ups.* 6. 77.

C. foliis ensiformibus striatis acutis, scapis erectis multifloris, bracteis ovario duplò brevioribus, sepalis petalisque lineari-oblongis acutis, labello indiviso planiusculo oblongo obtuso revoluto: lamellis arcuatis inconspicuis continuis.

Epidendrum ensifolium. *Linn. Sp. Pl.* 1352. *Smith Spicileg. Bot.* 22. *t.* 24.
Limodorum ensatum. *Thunb. Jap.* 29. *Banks. Ic. Kæmpf. t.* 3.
C. ensifolium. *Willd. Sp. Pl.* 4. 112. *Bot. Mag.* 1751.

Hab. in *China.* (*v. v. c.*)

Flores viridi-lutei venis purpureis striati. Labellum maculatum.

3. Cymbidium xiphiifolium. *Lindl. in Bot. Reg. t.* 529.

C. foliis lineari-ensiformibus cartilagineo-serrulatis striatis acutis, scapis erectis 4-5-floris, bracteis inferioribus acuminatis ovario brevioribus superioribus majoribus, sepalis petalisque lineari-oblongis acutis unicoloribus, labello indiviso cucullato revoluto obtuso intùs bicalcarato.

Hab. in *China*; Hort. (*hab. s. c. et v. v.*)

Flores pallidi virides unicolores.

4. Cymbidium hæmatodes.

C. foliis lineari-ensatis 3 costatis, scapo erecto multifloro, bracteis lanceolatis acuminatis ovario longioribus, sepalis lineari-oblongis acutis, petalis lanceolatis undulatis, labelli lobis lateralibus rotundatis obsoletis intermedio ovato undulato acutiusculo: lamellis arcuatis integris.

Hab. in *Zeylona,* in locis humidis umbrosis sylvarum, florens Julio, *Macrae*; (*hab. s. sp. et v. ic. pict.*)

Racemus 6-7-florus. Sepala et petala albida, venis roseis lineata. Labellum album maculis parvis sanguineis circa ora guttatum. Columna lutea.

5. Cymbidium macrorhizon.

C. foliis ...., rhizomate repente subterraneo articulato, scapo ascendente laxè vaginato, racemo stricto laxo paucifloro, sepalis lineari-oblongis, petalis latioribus acutioribus, labelli trilobi concavi lobis lateralibus rotundatis intermedio elongato obtuso convexo revoluto: lamellis arcuatis apice dilatatis conniventibus.

Hab. prope viam in *Cashmere* circa gradum 31 lat. bor. in vallibus sole fervido calentibus, *Royle.* (*exam. s. sp. in herb. Royle.*)

Verosimiliter aphyllum. Vaginæ et bracteæ inferiores ventricosæ, acutæ. Sepala lineas 10 longa.

6. Cymbidium cyperifolium. *Wall. Cat. no.* 7353.

C. foliis lineari-ensiformibus acutis striatis tricostatis scapis strictis longioribus, bracteis foliaceis acuminatis ovariis longioribus, sepalis petalisque lineari-oblongis acutis striatis, labelli 3-lobi canaliculati lobis lateralibus acutis intermedio ovato refracto: lamellis subparallelis continuis.

Hab. in *Sylhet*, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Sepala et petala $1\frac{1}{4}$ poll. longa, viridia, basi purpurascentia. Labellum pallidè viride, laminâ bis quaterve purpureo-maculatâ, hypochilio venis purpureis confluentibus marginato.

7. Cymbidium longifolium. *Don. Prodr. Nep.* 36. *Wall. Cat. no.* 7356.

C. foliis lineari-ensiformibus striatis acutis, scapo erecto nutante multifloro, bracteis minutis, sepalis lineari-oblongis petalisque lineari-spatulatis falcatis acutis striatis, labelli trilobi lobis lateralibus brevibus acutis intermedio ovato acuto subcordato : lamellis parallelis continuis integerrimis.

Limodorum angustifolium. *Hamilt. ic. penes Dom. Bauer.*

Hab. in *Napalia et Kamaon*; *Wallich.* (*hab. s. sp. e Mus. Angl Ind. et v. ic. pict.*)

Sepala et petala $1\frac{3}{4}$ poll. longa, viridia, sanguineo-striata. Labellum cum pede columnæ connatum, flavum, venis maculisque quibusdam sanguineis notatum.

8. Cymbidium giganteum. *Wall. Cat. no.* 7355.

C. foliis ensiformibus striatis acutis racemo cernuo multifloro longioribus, bracteis minutis, sepalis oblongis petalisque lineari-lanceolatis acutis, labelli trilobi lobis lateralibus parvis acutis basi pubescentibus intermedio multò majore ovato acuto undulato medio barbato : lamellis arcuatis apice connatis pilosis.

Limodorum longifolium. *Hamilt. ic. penes Dom. Bauer.*
? Cymb. iridioides. *Don. Prodr.* 36.

Hab. in *Napalia*; *Wallich* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Scapus $1\frac{1}{2}$ pedalis, nutans, vaginis inflatis acuminatis. Flores fusco-purpurei, ochroleuco marginati. Sepala 2 poll. longa, $\frac{3}{4}$ lata. Labellum cum basi columnæ connatum, ochroleucum, fusco-purpureo venosum et maculatum, ciliatum. Capsula 4 poll. longa, 6-costata, ovalis. Racemi post anthesin erecti.

Obs. Anthera non cum columna articulata, sed a facie ad dorsum usque omninò continua ; reverà est mera cavitas apicis columnæ.

9. Cymbidium elegans. *Lindl. in Wall. Cat. no.* 7354.

C. foliis lineari-ensiformibus acutis striatis racemo (densissimo) oblongo nutante longioribus, bracteis brevibus squamiformibus, floribus cylindraceis, sepalis petalisque lineari-oblongis obtusiusculis, labelli cuneati canaliculati apice trilobi lobis lateralibus acutis intermedio recto acuto parùm longiore : lamellis connatis basi abruptè discretis.

Limodorum cyperifolium. *Hamilt. ic. penes Dom. Bauer.*

Hab. in *Napalia*; *Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Racemus aliquando 8 poll. longus, $3\frac{1}{2}$ p. latus, oblongus ; nunc multò

minor, 10-florus. Vaginæ scapi inflatæ, acuminatæ, internodiis longiores. Flores viridi-lutei. Labellum intùs sanguineo-punctatum. Pollinia pyriformia, posticè fissa, basi discreta.

10. Cymbidium lancifolium. *Hooker Exot. Fl. t.* 51.

C. foliis radicalibus oblongo-lanceolatis acutis scapis erectis paucifloris longioribus, bracteis ovario 3plò brevioribus, labello 3-lobo apice recurvo lineâ mediâ elevatâ sulcatâ, caulibus fusiformibus carnosis.

Hab. in *Napalia; Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Sepala candida; petala candida medio rosea; labellum candidum sanguineo-maculatum, lobo medio acuto. Labelli fabricam non videre contigit; Icon Wallichiana indicat duas lamellas contiguas.

11. Cymbidium suave. *Brown Prodr.* 331.

C. " foliis elongato-linearibus carinatis, scapis axillaribus basi bracteis imbricatis, racemis multifloris, perianthio patenti foliolis obtusis, labello ecarinato indiviso."

Hab. in *Nova Hollandia,* prope *Portum Jackson;* R. Brown.

12. Cymbidium canaliculatum. *Brown Prodr.* 331.

C. " foliis elongatis linearibus altè carinatis rigidis, scapis axillaribus basi bracteis imbricatis, racemis multifloris, perianthio patenti foliolis acutis, labello intùs bicarinato : apice trilobo."

Hab. in *Nova Hollandia tropica;* R. Brown.

13. Cymbidium Finlaysonianum. *Lindl. in Wall. Cat. no.* 7358.

C. foliis ...., scapo gracillimo (pendulo?) flexuoso multifloro, bracteis brevissimis squamæformibus, sepalis petalisque lineari-oblongis obtusis, labelli trilobi lobis lateralibus acutis intermedio oblongo undulato obtuso recurvo : lamellis ultra medium interruptis : dimidiis superioribus calcaratis.

Hab. in *Cochinchina,* ad sinum *Turon, Finlayson.* (*hab. s. sp. sine foliis e Mus. Angl. Ind.*)

Sepala $1\frac{1}{4}$ poll. longa.

14. Cymbidium bicolor.

C. foliis ensiformibus carnosis obliquè obtusis, racemis pendulis multifloris, bracteis minutis, sepalis petalisque lineari-oblongis acutiusculis, labelli trilobi saccati lobis lateralibus intermedioque ovato acutis : lamellis sigmoideis clavatis medio interruptis basi callosis.

C. aloifolium. *Blume Bijdr. t.* 19. *non Swartz.*

Hab. in *Zeylona, Macrae;* etiam in *Java,* ad radicem montis *Salak, Blume.* (*hab. s. sp. et v. ic. pict.*)

Sepala et petala purpurea, viridi pallido limbata. Labellum apice revolutum, pallidè viride, intra apicem purpureum, extùs ad sinus bimaculatum.

Nearly related to C. aloifolium, but certainly distinct in its saccate labellum, the lamellæ of which are curved like an S, clavate at the apex, interrupted in the middle, thicker in the lower half, and having a callus at their base. The flowers are smaller, and very differently coloured.

15. Cymbidium aloifolium. *Swartz. Nov. Act. Ups. 6. 73.*

C. foliis ensiformibus coriaceis obliquè obtusis, racemis pendulis multifloris, bracteis minutis, petalis sepalisque lanceolatis obtusiusculis, labelli revoluti lobis lateralibus acutis intermedio oblongo obtuso: lamellis interruptis clavatis posticè arcuatis.

Kansyram-maravara. *Rheede Mal.* 12. *t.* 8.
Epidendrum aloifolium. *Linn. Sp. Pl.* 1350.
Aerides Borassi. *Smith! in Rees Cycl. suppl.*

Hab. supra arbores per omnem continentem *Indiæ orientalis*, in insulis verosimiliter ignotum; floret Aprili; Roxburgh, Buchanan. (*v. v. c. et s. sp.*)

Sepala patentia; petala circa columnam suberecta. Labellum cucullatum, 3-lobum, integerrimum, basi saccatum, disco duobus paribus callorum, uno pare in medio clavato altero versus basin arcuato. Columna semiteres, erecta, libera, stigmate concavo elliptico transverso. Anthera terminalis, opercularis, 1-locularis, non cristata, decidua. Pollinia 2, sessilia in glandulam stigma relinquentem, trigona, posticè lobulo aucta.

16. Cymbidium Wallichii.

C. foliis latis ensiformibus apice obliquè retusis emarginatis, racemis longissimis pendulis multifloris, bracteis minutis, sepalis petalisque lineari-oblongis acutis intermedio lineari-oblongo: lamellis continuis parallelis.

C. aloifolium. *Wall. Cat. no.* 7352.

Hab. in *Cochinchina, Finlayson*; in *Penang, Porter*; ad ripas fluminis *Attran, Wallich.* (*hab. s. sp. e Museo Angl. Ind.*)

17. Cymbidium pendulum. *Swartz. Nov. Act. Ups. 6. 73. Willd. no. 30.*

C. foliis ensiformibus coriaceis obliquè obtusis, racemis pendulis multifloris, bracteis minutis, petalis sepalisque lineari-oblongis obtusis, labelli trilobi lobis lateralibus acutis intermedio ovato acuto: lamellis continuis approximatis apice confluentibus.

Epidendrum pendulum. *Roxb. Corom.* 1. 35. *t.* 44.
C. crassifolium. *Wall. Cat. no. 7357.*

Hab. in arbores in provincia *Silhet*, Roxburgh; etiam ad *Noakote*, florens Maio, *Wallich.* (*hab. s. sp. et v. ic. pict.*)

Racemus 2-pedalis. Flores straminei, venis sanguineis lineati. Folia 1½-3-pedalia. An idem? C. pendulum, *Blume Bijdr.* "foliis lato-linearibus basi canaliculatis rigidis apice obliquè retusis, spicâ longissimâ pendulâ, labello intus carinato." Hab. ad marginem fluminis *Tjapus*, in montanis Salak *Javæ*; cui sepala lineari-oblonga acuminata margine revoluta, flavescentia, basi sordidè purpurascentia.

18. Cymbidium limbatum. *Hooker in Herb.*

C. foliis oblongis coriaceis planis, racemis (pendulis?) multifloris, bracteis minutis, sepalis petalisque linearibus obtusis, labelli trilobi canaliculati lobis lateralibus acutis intermedio lineari obtuso, loco lamellarum callis duobus sub sinubus squamisque 2 obliquis carnosis pone basin labelli.

Hab. in insula *Trinitatis: Shepherd*, (*exam. s. sp. in herb. Hooker.*)

19. ? Cymbidium violaceum. *Humb. et Kunth. N. G. et Sp.* 1. 341.

C. "foliis distichis oblongo-ellipticis obtusis canaliculatis internè macula-

tis, pedunculo paucifloro, calycis foliolis exterioribus lanceolato-oblongis: duobus interioribus subcrenulatis, labello trilobo: lobo intermedio subrotundo emarginato crenulato internè ruguloso-venoso."

Hab. in sylvis *Orinocensibus* prope Cataractas *Aturensium,* et San Fernando de Atabapo, florens Maio: Humb. et Bonpl.

Epiphyta. Folia coriacea vix 3-poll., pollice latiora, basi vaginantia. Vaginæ inferiores aphyllæ, apice acuminatæ, 1½-2-poll. Scapus sub-8-poll. usque supra medium vaginis vestitus. Flores violacei, patentissimi. Sepala acuta, crassiuscula, 2-pollicaria. Petala utrinque acuta exterioribus paulò longiora. Labellum basin versus flavum. Pollinia ignota. *Ex Kunth.*

20. Cymbidium flabelliforme. *Swartz. Nov. Act. Ups.* 6. 73.

C. "acaule, compressum, foliis basi attenuatis carinatis supernè planis ovato-lanceolatis nervosis, scapis abbreviatis unifloris. *Swartz. Fl. Ind. Occ.* 3. 1471.

Epidendr. flabelliforme. *Swartz. Prodr.* 123.

Hab. rarius in arboribus montium *Jamaicæ;* Swartz.

Folia omnia radicalia in formam flabelli disposita; media plusquam pedalia. Scapi radicales foliis multo breviores. Bracteæ 2, spathaceæ, ovatæ, acutæ, sub flore breviter pedicellato magno. Sepala et petala undulata, subæqualia, pollicaria, ovato-lanceolata, lineato-venosa, concava, alba. Labellum conforme, patens, ante columnam bicarinatum, marginibus ad basin erectis, undulatis; apice planiusculum acutum. *Ex Swartz.*

21. Cymbidium aculeatum. *Swartz. in Schrad. Diar.* 1799-225.

C. foliis linearibus patentibus scapo erecto flexuoso brevioribus, racemo denso paucifloro, sepalis petalisque conniventibus oblongis obtusis, labelli obovati trilobi lobis lateralibus acutis intermedio oblongo recto rotundato: lamellis basi integris apice aculeatis.

Satyrium aculeatum. *Linn. Suppl.* 402.
Serapias aculeata. *Thunb. Prodr.* 3.
C. aculeatum. *Thunb. Fl. Cap.* 71. *Willd. Sp. Pl.* 4. 108.
Eulophia aculeata. *Spreng. Syst.* 3. 720.

Hab. ad *Cap. B. Sp.,* in summo Taffelberg, in planitiem frontis, Thunberg. (*hab. s. sp. comm. cel. Lehmann.*)

Flores parvi, flavi; labelli laminæ albæ purpureæque.

22. Cymbidium tabulare. *Swartz in Schrad. Diar.* 1799-224.

C. folio lineari solitario, scapo flexuoso striato, floribus 5 cernuis, sepalis ovatis obtusis concavis erectis, petalis conformibus patentibus, labello breviore convoluto concavo obtusissimo tripartito: lobis ovatis integris intermedio concavo breviore exciso.

Satyrium tabulare. *Linn. Suppl.* 402.
Serapias tabularis. *Thunb. Prodr.* 3.
C. tabulare. *Willd. Sp. Pl.* 4. 108. *Thunb. Fl. Cap.* 70.

Hab. ad *Cap. B. Sp.,* in planitiem montis tabularis prope frontem, Thunberg.

Flores virescentes. Labellum totum flavum. Scapus vix pedalis. Folium digitale.

23. Cymbidium flabellatum.

C. foliis lineari-loratis distichis flabellatis scapo longioribus, racemo paucifloro, sepalis ovatis acutis, petalis erectis brevioribus, labelli lobis lateralibus acutis intermedio crispo trilobo: lobo terminali emarginato.

Limodorum flabellatum. *Thouars Orch. Afr. t.* 39. 40.

Hab. in *Madagascaria*; Thouars.

Folia 2 pedalia. Flores purpureo-lutei.

24. Cymbidium subulatum. *Swartz. N. Act. Ups.* 6. 73.

C. "acaule, foliis subulatis sulcatis, racemis radicalibus." *Swartz. Fl. Ind. Occ.* 3. 1473.

Epidendrum subulatum. *Id. Prodr.* 123.

Hab. supra arbores in sylvis *Jamaicæ interioris*; Swartz.

Folia subpedalia, carnosa, parum recurvata. Racemi radicales 1-2-pollicares, 4-6-flori, laxi. Petala et sepala lato-linearia, subpatentia. Labellum ovatum, acutum, concavum, petalorum magnitudine. *Ex Swartz.*

§. *Caulescentia, ebulbia.* (Pseudo-Vanda.)

25. Cymbidium tenuifolium. *Willd. no.* 39.

C. foliis teretibus, umbellis subsessilibus, sepalis linearibus obtusis patentibus sub apice mucronatis, petalis longioribus, labello oblongo concavo disco tricalloso basi auriculato apice membranaceo bilobo.

Tsierou-mau-maravara. *Rheede* 12. *t.* 5.
Epidendr. tenuifolium. *Linn. Sp.* 1348.

Hab. in *Malabaria*, Rheede; in *Zeylona*, supra arbores ad Peradeniam, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Sepala luteo-viridia, basi leviter connata, labello breviora. Petala ejusdem coloris. Labellum pallidè viride, purpureo pictum, facie *Ophrydis* cujusdam. Columna parva, libera, quadrata; stigmate totam faciem occupante. Pollinia 2, solida, leviter hinc excavata; caudiculâ latâ elasticâ; glandulâ latâ.

26. Cymbidium triste. *Willd. Sp. Pl.* 4. 99.

C. foliis teretibus, umbellis subsessilibus, sepalis petalisque conniventibus carnosis oblongis cymbiformibus, labello oblongo sepalis duplo latiore.

Epidendrum teres. *Thunb.*
Epidendrum triste. *Forst. Prodr. n.* 314.
Luisia teretifolia. *Gaudich. Voy.* 427. *t.* 37.
Vanda? trichorhiza. *Hooker Exot. Fl.* 72.

Hab. in. *Nova Caledonia*, Forster; insulis *Marianis*, Gaudichaud; *Japonia*, Thunberg; ad Noakote *Napaliæ*, *Wallich*; *Zeylona*, *Macrae*; (*hab. s. sp. et v. ic. pict.*)

Columna brevis semiteres, carnosa. Anthera 1-locularis, mucronulata. Poll. 2, globosa, cava, caudiculâ brevi deltoideâ, glandulâ oblongâ. Exemplaria vermibus destructa tantùm vidi.

Caulis simplex, palmaris, vaginis sulcatis foliorum obtectus. Folia teretia, 6-7-uncias longa, arcuata. Spicæ laterales, breves, rigidæ, multifloræ. Bracteæ rotundatæ, nanæ. Perianthium connivens. Sepala ovata, obtusa. Petala conformia, paulò minora. Labellum saccato-concavum, liberum, oblongum, trilobum; lobis lateralibus abbreviatis, intermedio rotundato transverso. Columna brevis. Anthera subrotunda, ecristata. Pollinia 2, obovata, caudiculâ obovatâ, rostello longo hamato. *Ex Gaudich.*

§. 3. *Caulescentia, axillis pseudobulbiferis, floribus non galeatis.* (CAMARIDIUM.)

27. CYMBIDIUM vestitum. *Swartz. N. Act. Ups.* 6. 70.

C. "caule dichotomo vaginis undique imbricato apice axillisque bulbifero, bulbis 1-phyllis, floribus confertis e vaginis caulis." *Swartz. Fl. Ind. Occ.* 3. 1448.

Camaridium purpureum. *Spreng. Syst.* 3. 735.
Epidendrum vestitum. *Swartz. Prodr.* 124.

Hab. in arboribus *Jamaicæ temperatioris,* nec non ad latera rupium; Swartz.

Folium sessile, lato-lanceolatum, submembranaceum, integrum, rigidum. Flores minuti, purpurei. Sepala et petala subæqualia: hæc paulò angustiora, ovato-lanceolata, concava, subpatentia. Labellum petalis dimidio minus, deltoideum, infernè angustius, convexum, callo bifido columnæ basi approximatum, medio concavum, subreflexum, angulis marginalibus erectiusculis, apice attenuatum obtusum. Capsula ovata, parva, sub-3-gona, 3-carinata. *Ex Swartz.*

28. CYMBIDIUM ochroleucum.

C. caulescens, axillis pseudobulbiferum, foliis ligulatis carinatis apice obliquè emarginatis, floribus solitariis axillaribus, sepalis petalisque æqualiter patentibus lineari-oblongis subspatulatis acutiusculis, labello cucullato trilobo disco barbato.

Camaridium ochroleucum. *Lindl. in Bot. Reg.* 844.

Hab. in insula *Trinitatis.* (*v. v. c.*)

Columna libera, erecta, semiteres. Stigma fornicatum, rotundatum. Anthera semibilocularis. Poll. 4, compressa, parallela, caudiculâ ovatâ, glandulâ sublunatâ.

29 ? CYMBIDIUM glandulosum. *Humb. et Kunth. N. G. et Sp.* 1. 340.

C. "bulbo oblongo, foliis latè linearibus acutis, pedunculo paucifloro pedicellisque glandulosis, calycis foliolis spathulatis, labello trilobo: lobo intermedio emarginato."

Hab. in crepidinibus opacatis montis Avila v. Silla de *Caracas,* alt. 1280 hexap. florens Februario; Humb. et Bonpl.

Epiphyta. Folia coriacea, subsexpoll., vix 4 lin. lata. Scapus sub5-poll. Flores 3-4, concolores, exsiccati aurantiaci. Sepala et petala spatulata, acuta, reticulato-venosa, ½poll. Labellum brevius, trilobum, basi concavum columnam involvens; lobo intermedio lateralibus majore subrotundo planiusculo. Pollinia ignota. *Ex Kunth.*

30. ? CYMBIDIUM candidum. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 342.

C. "bulbo oblongo, foliis lineari-oblongis obtusis, pedunculo bifloro, calycis foliolis exterioribus lanceolato-oblongis interioribus subrotundo-ovatis crenulatis, labello trilobo: lobo intermedio subrotundo emarginato crenulato."

Hab. ad truncos Uvariæ prope urbem *Carthaginem Popayanensium,* in convalli fluminis Caucæ, alt. 470 hexap. florens Septembri; Humb. et Bonpl.

Folia coriacea, nervoso-striata, sub 8-poll., 2 poll. ferè lata. Flores candidi. Sepala acuta, bipollicaria et longiora. Petala paulò longiora et

tenuiora. Labellum canaliculatum, lineis roseis pictum, basi flavescens, lobo intermedio violaceo. Pollinia 4, pedicellata, subrotunda, cereacea. *Ex Kunth.*

Certainly not a Cymbidium, if the Pollen is rightly described.

31. ? Cymbidium cordigerum. *Humb. et Kunth. N. G. et Sp.* 1. 341.

C. " bulbo oblongo, foliis lineari-lanceolatis obtusis, pedunculo paucifloro, calycis foliolis spathulatis, labello trilobo: lobo intermedio obcordato subcrenulato."

Hab. regione ferventissimâ Provinciæ *Venezuelæ,* inter Santa Barbara, et Porto Cabello, alt. 85 hexap. florens Februario; Humb. et Bonpl.

Epiphyta. Folia coriacea, vix pedalia, poll. lata. Scapus pedalis. Flores circiter 6. Flores patentes, purpurei? Sepala et petala acutiuscula, nervosa, subpollicaria. Labellum longius, lobis lateralibus obliquè ovatis obtusis, intermedio maximo plano, exsiccato aurantiaco basin versus purpureo. Pollinia ignota. *Ex Kunth.*

§. 4. *Rhizoma repens, pseudobulbos* 1-2-*phyllos gerens.* (Bolbidium.)—An hujus loci Maxillaria picta aliæque?

32. Cymbidium diurnum. *Swartz. in Schrad. Diar. Bot.* 1799. 221. *Willd.* 4. 106.

C. pseudobulbis ovatis diphyllis, foliis coriaceis lineari-oblongis rectis obtusis, scapo terminali paniculato multifloro, sepalis petalisque patentibus subæqualibus, labelli trilobi axi carinatâ lobis lateralibus erectis abbreviatis acutis membranaceis dentatis intermedio unguiculato obovato-oblongo bilobo convexo marginibus revolutis.

Limodorum diurnum. *Jacq. Ic. Rar.* 3. *t.* 603.

Hab. in *Bahamis; Hooker,* in arboribus ad *Caraccas,* Jacquin. (*exam. s. sp. in herb. Hooker.*)

Pseudobulbus 1½ poll. long. Folia 8-poll. Scapus bipedalis. Sepala concava; petala plana obtusiora. Labelli laciniæ laterales columnam amplectentes eoque paulò longiores. Labellum ecristatum, basi cum columna subparallelum, posteà patentissimum. Columna utrinque marginato-alata. Clinandrium utrinque marginatum denticulatum. Pollinia 2, obscurè visa.

If Jacquin's figure be correct in the form of the labellum, then the plant I have described from Dr. Hooker's herbarium must be a different species; but I am rather inclined to think that the figure is unfaithful.

33? Cymbidium trinerve. *Meyer Esseq.* 258.

C. " foliis radicalibus lineari-lanceolatis trinervibus; scapo paniculato, bracteis petalisque margine crispato-undulatis, labelli lobo medio latiore emarginato."

Hab. in *Essequebo,* in locis altis arenosis regionis rivi Arowabischkreek; Meyer. Floret Octobre.

Planta 4-5-pedalis, glaberrima. Folia membranacea, firma, basi invicem se amplectentia et imbricata, alterna, disticha, lineari-lanceolata, acuminata, infernè carinata, trinervata, lineata. Scapus erectus, teres, panicula subpedali terminatus. Rami paniculæ alterni, adscendentes, simplices. Bracteæ ad ramorum pedicellorumque basin singulæ, unciales, oblongæ, acuminatæ, margine crispato-undulatæ, una cum corolla nervato-reticulatæ et coloratæ. Flores alterni, remoti, pedicellis semi-

pollicaribus unifloris suffulti. Calycis foliola patentia, oblonga, acuta, undulata, e fusco lutea. Labellum calycis foliolis duplò brevius, quadrato-subrotundum, sulphureum; laminâ trilobâ, lobis rotundatis, intermedio planiusculo emarginato, lateralibus adscendentibus, triplò minoribus, integrisque. Gynostemum petalis duplò brevius, adscendens, anticè concavum. Capsula prismatica, nitida. *Meyer.*

34. CYMBIDIUM marginatum. *Lindl. in Bot. Reg.* 1530.

C. pseudo-bulbis ovato-oblongis teretibus 1-3-phyllis, foliis lineari-lanceolatis coriaceis erecto-recurvis, scapis unifloris gracilibus vaginatis foliis brevioribus, sepalis oblongo-lanceolatis, petalis minoribus conformibus, labello oblongo-lanceolato obtuso cucullato subrepando indiviso.

? Maxillaria gracilis. *Lodd. Bot. Cab. t.* 1837.
? Bletia humilis. *Link. et Otto. Neu. et Selt. Gewächs. t.* 27.

Hab. in *Brasilia,* prope Rio Janeiro; ? etiam in *Mexico;* Deppe. (*v. v. c.*)

Folia 4-8 poll. longa, 6-7 lineas lata, atroviridia. Scapi palmares, vaginis longis fuscis distantibus. Flores lutei. Sepala pollicem longa, rubro-marginata; supremum cum petalis parallelum labium superius, lateralibus divergentibus inferius constituentibus. Labellum interruptè umbrino-limbatum.

The *Maxillaria gracilis* of Mr. Loddiges is either a sickly specimen of this, or a nearly allied species. It may be the same as *Bletia humilis* of Link and Otto, a plant I have never seen, but which is most likely another species, very nearly related to this.

35. CYMBIDIUM Javanicum. *Blume Bijdr.* 380.

C. " bulbis cauliformibus teretibus 3-foliatis, foliis lineari-lanceolatis acuminatissimis membranaceis, spicâ laterali pauciflorâ, labello intùs carinato."

Hab. in *Java* ad radices arborum in sylvis montium *Seribu;* Blume.

Sepala lineari-oblonga, acuta, patentia, diaphano-albicantia, interiora labellumque purpurascente-maculata. Pollinia ovalia v. subglobosa. *Bl.*

This perhaps belongs to the Eucymbidia, near C. lancifolium.

36. CYMBIDIUM cuspidatum. *Blume Bijdr.* 379.

C. " bulbis ovato-oblongis compressiusculis sub-4-phyllis, foliis lineari-lanceolatis cuspidatis coriaceis, spicâ radicali 3-5-florâ, labello intùs carinato medio bicalloso."

Hab. in *Javæ* montanis *Salak* et *Tjerimai;* Blume.

Sepala oblonga, acuminata, pallidè flavescentia, lineis purpurascentibus notata, duobus lateralibus exterioribus arcuato-conniventibus. Massæ pollinis ovales v. subglobosæ. *Bl.*

§. 5 *Acaulia, tuberosa, foliis plicatis, columnâ alatâ, labello nudo, polliniis 2 integris.* (ANGIDIUM.)

37. CYMBIDIUM utriculatum. *Swartz. Nov. Act. Ups.* 6. 75. *Willd. Sp. Pl.* 107. *Swartz. Fl. Ind. Occ.* 1477.

Limodorum utriculatum. *Swartz. Prodr.* 119. *Jacq. Fragm. Bot.* 29. *t.* 32. *f.* 4.

Hab. in sylvis subhumidis *Jamaicæ,* Swartz, *Macfadgen; Hispaniolæ,* Swartz. (*v. s. sp. in herb. Hooker.*)

Verosimiliter est genus distinctissimum; sed exempl. manca in herb. Hooker. quæ solùm vidi, non mihi omninò satisfaciunt. Hæc tamen vidi, columnam alatam, labellum oblongum acutum indivisum elamellatum, pollinia 2, stigma ad apicem columnæ, nec ad basin ut vult cel. Swartzius, scapum erectum foliis longiorem pubescentem. Descriptionem Swartzii subjungo.

Radix tuberosa, subrotunda, difformis, carnosa, succulenta, sæpe magnitudine tuberum maximorum Solani tuberosi. Huic insidet Bulbus subrotundus, vaginis emarcidis vestitus, radiculis filiformibus longis sub bulbo prope tuber exsertis. Folia duo, subpedalia, lato-lanceolata, acuta, integra, longitudinaliter plicato-nervosa, utrinque glabra; basi cincta vaginis alternis, quarum una magna, elongata, medio valdè ventricosa, apice acuminata, interdum bifida, glabra, lineato-nervosa, copia aquæ limpidæ plerumque distenta. Scapus e radice intra vaginam inflatam, foliis duplò longior, teres, crassitie calami scriptorii, vaginulis aliquot remotis arctis cinctus. Flores terminales, alterni, distantes, sessiles, majusculi, albi, succulenti, hinc facillimè decidui. Bracteæ lanceolatæ, breves, sub floribus. Petala 5, supremum exterius concavum, cum duobus interioribus lanceolatis falcatis in galeam quasi connivens: lateralia exteriora apice ad superiora approximata, falcata, basi anticè gibba. Labellum basi latum, ovato-concavum; lamina erecta, apice subrecurva obtusa, tribus maculis purpureis notata. Columna erecta, petalis paullulum brevior, gibba, anticè excavata, purpureo-fasciata; apice in fovea præbens Antheram subconicam, quadrilocularem, globulis pollinis solitariis, subrotundis, flavis. Germen cylindricum, contortum. Stigma ad basin columnæ labello oppositum. Capsula magna, oblonga, basi et apice acuminata et torta, tricarinata, 6-sulcata.

† *Species omninò dubiæ.*

38. Cymbidium vexilliferum. *Llave et Lexars. Nov. Veg. Descr.* 2. 11.

"Planta terrestris, vix pedalis. Radix tuberosa, bulbo unico oblongo tunicato, fibrillis capillaribus ad collum tecta; radiculæ simplices vermiformes. Folia radicalia lanceolato-ovata, nervosa, lævigata, vaginantia. Scapus 3queter, angulis decurrentibus, floribus spicâ diffusâ ordinatis, cernuis. Bracteæ lineares, acutæ, amplexicaules. Perigonium herbaceo-membranaceum, luridum, segmentis 3 externis lato-lanceolatis, duobus interioribus lineari-elongatis, omnibus patentibus marginibus revolutis. Labellum magnum, ovatum, carinatum, purpureo-fuscum, venosum, ad marscescentiam nigricans, vexillum papilionacearum æmulans, limbo integerrimo. Gynostemium conico-incurvum, anticè canaliculatum, ad apicem incrassatum, auriculis 2 carnosis foveam stigmatis concludentibus. Anthera opercularis caduca. Pollinis massæ 4, ovatæ, pedicello brevi glutinoso affixæ. Operculum petaloideum, reniforme, biloculare, herbaceum."

Habitat in montibus *Vallisoletanis.*

Verosimiliter genus distinctum. An *Cremastræ* species?

39. Cymbidium tabulare. *Willd. Sp. Pl.* 4. 37. *Thunb. Fl. Cap.* 70.

Satyrium tabulare. *Linn. Suppl. p.* 403.
Serapias tabularis. *Thunb. Prodr. Fl. Cap.* 3.

Hab. ad *C. B. S.* in planitiem montis tabularis prope frontem; floret Januario; Thunberg.

Radix bulbosa. Folium radicale, solitarium, lineare, patens, glabrum, digitale. Scapus flexuosus erectus, striatus, vix pedalis. Vaginæ in scapo binæ v. 3. Flores circiter 5, cernui. Bractea sub singulo flore lanceolata, capsulâ brevior. Corolla irregularis, virescens, 5-petala; tria exteriora consimilia, ovata, obtusa, venosa, concava, erecta, unguicularia; lateralia basi anticè ad latera labelli parùm producta; duo interiora vix angustiora, subpatentia. Labellum totum flavum, reliquis petalis latius, et paulò brevius, convoluto-concavum, obtusissimum, tripartitum, laciniæ ovatæ integræ; intermedia concava, subinde brevior, excisa. *Thunb.*

40. Cymbidium montanum. *Swartz. Nov. Act. Ups.* 6. 72.

C. "caule simpliciusculo, foliis lato-lanceolatis apice subrecurvis, racemo terminali, floribus secundis, lamina labelli trifida." *Swartz. Fl. Ind. Occ.* 3. 1469.

Epidendrum montanum. *Swartz Prodr.* 121.

Hab. in arboribus in montibus cæruleis *Jamaicæ australis*; Swartz.

Caulis 1-2-pedalis, simplicissimus, teres, infernè aphyllus, vaginatus, geniculatus, ad genicula infima subdivisus, supernè foliosus. Racemus ½pedalis, flexuosus, compressus, multiflorus. Flores albi. Bracteæ cucullatæ. Sepala et petala ovato-lanceolata, concava, patentia. Labellum cymbiforme, laciniâ intermediâ longiore, medio sanguineo-punctatâ. *Ex Swartz.*

XCVIII. ACROPERA.

Sepala patentia, supremum galeatum, lateralia divaricata. Petala nana, obliqua, apice truncata, subpatentia. Labellum unguiculatum, cum basi columnæ elasticè articulatum, trilobum, lobo intermedio minore saccato. Columna erecta, marginata, basi saccata. Pollinia 2, linearia, convoluta, caudiculâ lineari-subulatâ, glandulâ minutâ. Rostellum subulatum.——Epiphyta, racemis cernuis multifloris, vegetatione *Maxillariæ Colacis.*

This genus is very near Maxillaria, from which however its curious labellum, and stunted petals sufficiently distinguish it.

1. Acropera Loddigesii.

Maxillaria galeata. *Lindl. in Lodd. Bot. Cab. t.* 1645.

Hab. in *Mexico* prope *Xalapa, Loddiges.* (*v. v. c. comm. amic. Loddiges.*) floret Julio.

Flores fusco-crocei. Labellum rubescens ob elasticitatem unguis ligulati semper vacillat. Ovarium cylindraceum, viridi-purpureum, subspiraliter convolutum.

XCIX. CREMASTRA.

Perianthium tubulosum, apice patens. Sepala et petala angusta, subæqualia, omninò libera. Labellum longè unguiculatum, cum columna parallelum, apice dilatatum 3-fidum: appendice ad basin limbi carnoso, naviculari, ascendente. Columna longissima, semiteres, erecta, libera. Pollinia (4, ovata, plana, glandulâ dilatatâ. *Wallich.*)——Terrestris; pseudobulbis annulatis, aggregatis. Folia membranacea, subplicata.

1. Cremastra Wallichiana. *Lindl. in Wall. Cat. no.* 7349.

Cymbidium appendiculatum. *Don. Prodr.* 36.

Hab. in *Napalia*, ad *Sheopore*, supra arbores et rupes. *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Bulbi magni, globosi, fasciculati, subannulati, pollicares. Folia oblongo-lanceolata, in petiolum angustata, acuminata, tricostata, striata, pergamenea. Scapus 1-1½-pedalis, striatus, vaginatus. Flores sesquipollicares, racemosi, congesti, penduli, cylindracei, apicibus recurvis, Hyacinthum simulantes, rosei, labello intùs purpureo maculato.

C. GRAMMATOPHYLLUM.

Grammatophyllum. *Blume Bijdr.* 377. *tabellen* 20.——Gabertia. *Gaudich. Voyage.* 425.

Perianthium explanatum, patens, sepalis petalisque subæqualibus. Labellum cum columnâ articulatum, nanum, trilobum, cucullatum. Columna arcuata, erecta, semiteres, basi callosa. Anthera subbilocularis. Pollinia 2, globosa, basi sulcata, in extremitatibus glandulæ arcuatæ sessilia——Herba epiphyta, caulescens. Caules simplices incrassati. Folia linearia, disticha, striata. Pedunculi radicales, longissimi, (v. terminales ?) multiflori. Flores speciosissimi.

Cymbidio differt tantùm polliniis et glandulâ.

1. Grammatophyllum speciosum. *Blume Bijdr.* 377.

G. caule carnoso, foliis ensiformibus plicatis, scapis radicalibus.

Angræcum scriptum. *Rumph. Amb.* 6. 95. *t.* 42.
Epidendrum scriptum. *Linn. Sp. Pl.* 1351.
Cymb. scriptum. *Swartz. in Schrad. Diar.* 1799. *p.* 218. *Willd. Sp. Pl.* 4. 100.
Gabertia scripta. *Gaudich. Voy.* 425.

Hab. in *Java* circa Buitenzorg in arboribus, Blume; in *Amboyna*, Rumphius; in *Moluccis*, supra rupes nudos, Gaudichaud; in freti Malaccensis insula *Pulo Dinding*, *Finlayson.* (*hab. s. sp. e Mus. Angl. Ind.*)

An diversæ species hìc confusæ?

Caulis erectus simplex foliosus. Folia lanceolata, acuta, disticha, patentissima, 9-15-striata, plana, membranacea. Scapus erectus, longissimus, multiflorus. Flores luteo-virides, brunneo maculati; laciniis obovatis. Fructus succulentus. *Gaudich.*

2. Grammatophyllum ? Finlaysonianum. *Lindl. in Wall. Cat. no* 7561.

G. caule cylindraceo striato, foliis distichis emarginatis basi latioribus, racemis terminalibus longè pedunculatis, bracteis distichis confertis ovatis concavis acutis rigidis.

Hab. in *Sincapore, Finlayson, Wallich*; (*hab. s. sp. deflorat. e Mus. Angl. Ind.*)

Herba facie *Epidendri elongati* Folia 4 poll. longa. Racemi 2½ pollicares. Flores duos inspexi quorum unus apertus, alter alabastrus, ambo vermibus destructi. Ex his judico Perianthium explanatum, 2 pollices latum; sepala lanceolata, æqualia; petala ascendentia duplò latiora; labellum liberum, columnâ articulatum, cucullatum, 3-lobum, appendicibus cristisve nullis, nisi in discum laciniæ intermediæ ubi tuberculosum; columnam erectam semiteretem, membranaceo-marginatam, basi nullo modo productam; antheram bilocularem; pollinia 2, posticè excavata. Glandulam vix vidi.

CI. TRICHOCEROS.

Trichoceros. *Humb. et Kunth. Nov. Gen. et Sp.* 1. 338.

Perianthium explanatum, regulare, petalis sepalis labelloque subconformibus, Columna nana, villosa, utrinque processu petaloideo piloso instructa; rostello acuminato. Anthera unilocularis? ad dorsum rostelli. Pollinia 2, solida, obovata, caudiculâ unicâ elongatâ.——Herbæ epiphytæ, pseudobulbosæ, caulescentes. Scapi distanter vaginati, multiflori. Flores mediocres.

1. Trichoceros parviflorus. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 337. *t.* 76.

T. processubus columnæ linearibus ascendentibus exannulatis sepalis paulò brevioribus.

Hab. in faucibus *Andium Novogranatensium,* juxta ripam fluminis Xayo et confluentem Sambingi, ubi sylvæ humidis flatibus perstringuntur neque solis foventur radiis alt. 1118 hexap. floret Novembri; Humboldt et Bonpl.

Planta parasitica. Caules teretes, glabri, subpedales, basi foliati, apice pauciflori. Pseudobulbi oblongi, glabri, virescentes. Folia oblongo-lanceolata, acuminata, plana, coriacea, glabra, basi vaginantia, bipollicaria, 6 aut 7 lin. lata. Flores subspicati, pedicellati, bracteati; bracteâ ovatâ, acuminatâ, striatâ, membranaceâ, glabrâ. Perianthium patens, glaber, exsiccatus flavescens; sepala subæqualia, oblonga, acuta, flaviuscula, 5-venia, 5-lineas longa; petala simillima, paulò minora. Labellum oblongum, acutum, magnitudine sepalorum, 7-venium, planiusculum, ciliatum, internis præsertim basin versus pilis violaceis tectum. Columna brevis, violaceo-pilosum, utroque latere processubus linearibus, pilosis, membranaceis, ascendentibus, non annulatis, calyce paulò brevioribus. *Kunth l. c. quibusdam mutatis.*

2. Trichoceros antennifer. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 338.

T. processubus columnæ annulatis arcuatis antennæformibus.

Epidendrum antenniferum. *Humb. et Bonpl. Pl. Æq.* 1. 98. *t.* 28.
Flor de Mosquito *Incolarum.*

Hab. in temperatis subfrigidis regni *Quitensis,* prope *Cuenca,* alt. 1351 hexap. florens Julio; Humboldt et Bonpl.

Planta parasitica. Pseudobulbi ovati, compressi, glabri. Folia et caulis præcedentis. Spica 6-9-flora. Flores paralleli, bracteati, iis proximè antecedentis duplò majores. Perianthium patens, glabrum. Sepala oblonga, acuta, interiùs violaceo punctata, exteriùs viridia; petala paulò minora. Labellum oblongum, violaceo punctatum. Processus antenniformes 2, arcuati, annulati; annuli albi, glabri, cum violaceis pilosis alternantes. *Kunth.*

3. Trichoceros muralis.

T. processubus columnæ oblongis obtusis planis sepalis duplò brevioribus.

Hab. in *Peruvia,* ad *Cuenca,* supra muros; *Jamieson.* (*hab. s. sp. comm. cel. Hooker.*)

Caulis ascendens, brevis. Folia brevia, oblonga, carnosa, densa, cuspidata. Scapus gracilis, erectus, 4 p. longus, distanter squamatus. Racemus brevis, corymbosus. Sepala ovata, acuta. Petala conformia, basi ciliata. Labellum oblongum, obtusum, sepalis longius, basi pilosissimum, cum columna nana alata villosa continuum; processus petaloidei oblongi, obtusi, patentissimi, plani.

CII. GEODORUM.

Geodorum. *Jackson in Bot. Repos.* 626. (1810.) *Brown in Hort. Kew. ed.* 2. 5. 207.—Cistella. *Blume Bijdr.* 293. *tabellen* 55.—Otandra. *Salisb. in Hort. Trans.* 1. 261. (1812)

Perianthium connivens, sepalis petalisque liberis, subsecundis, subæqualibus. Labellum cucullato-ventricosum, sessile, cum columna non articulatum, versus basin saccatum. Columna brevis, erecta, semiteres. Anthera bilabiata. Pollinia 2, posticè biloba, caudiculâ brevissimâ, glandulâ transversâ.———Herbæ terrestres, tuberosæ. Folia plicata. Racemi apice recurvi.

The species of this very natural genus require to be all re-examined in a fresh state. I have adopted Dr. Brown's definitions in the Hortus Kewensis without, however, being entirely satisfied with them.

1. Geodorum purpureum. *R. Br. in Hort. Kew. ed.* 2. 5. 207.

G. scapo foliis longiore, racemo pendulo, floribus alternis, labello ovato acuto picto. *R. Br. l. c.*

Limodorum nutans. *Roxb. Corom.* 1. *t.* 40.
Malaxis nutans. *Willd. Sp. Pl.* 4. 93.

Hab. in *India Orientali,* in convallibus humidis montosis, florens sub initio temporis pluviosi; Roxburgh.

2. Geodorum pictum.

G. " racemo pendulo multifloro, bracteis lineari-lanceolatis ovaria subæquantibus, labello ovato retuso picto: callo disci ovato apice soluto dentato, foliis lanceolato-oblongis."

Cymbid. pictum. *Brown Prodr.* 331.

Hab. in *Nova Hollandia* tropica; R. Brown.

Verosimiliter idem ac G. purpureum.

3. Geodorum dilatatum. *R. Br. in H. Kew. ed.* 2. 5. 207.

G. scapo foliis breviore, spicâ pendulâ, floribus congestis, labello subcalcarato apice dilatato crenulato. *R. Br. l. c.*

Bela-Pala. *Rheede H. Malab.* 11. *t.* 25.
Limodorum recurvum. *Roxb. Corom.* 1. *t.* 39. *Swartz Nov. Act. Ups.* 6. 79. *Willd. Sp. Pl.* 4. 124.
Malaxis cernua. *Willd. Sp. Pl.* 4. 93.
Otandra cernua. *Salisb. in Hort. Trans.* 1. 261.
Cistella cernua. *Blume Bijdr.* 293. *t.* 55.

Hab. in *India Orientali* cum G. purpureo, Roxburgh; *Sylhet, Wallich; Java,* Blume. (*hab. s. sp. e Mus. Angl. Ind.*)

Folia oblonga, basi parùm angustata. Flores carnei venis roseis picti.

4. Geodorum pallidum. *Don Prodr.* 31.

G. scapo foliis breviore, spicâ congestâ nutante, labello basi saccato ovato integerrimo cucullato.

Limodorum candidum. *Roxb. MSS.*
Geodorum candidum. *Wall. Cat. no.* 7374.

Hab. in *Sylhet,* Roxburgh ; *Moalmayne, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Habitus omninò G. dilatati. An mera varietas?

5. Geodorum citrinum. *Jackson in Bot. Rep. t.* 626.

G. scapo foliis breviore, spicâ pendulâ, floribus congestis, labello basi subcalcarato apice obtuso integerrimo. *R. Br. in Hort. Kew.* 5. 207.

Hab. in *India Orientali;* in provincia *Chittagong, Wallich:* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia basi angustata. Labellum integerrimum. Flores citrini.

CIII. SOBRALIA.

Sobralia. *Fl. Peruv. Prodr.* 120. *t.* 26. *Lindl. Coll. Bot. p.* 33.

Perianthium maximum, subcarnosum, explanatum, patens. Sepala et petala subæqualia. Labellum cucullatum, columnam involvens, basi angustatum, bilobum. Columna erecta, elongata, marginata, clavata, apice utrinque alata. Anthera bilocularis: loculis connectivo lato discretis. (Pollinia 2, caudiculâ lineari. *ex Fl. Peruv.*)——Herbæ terrestres, altæ, caulescentes. Folia plicata, vaginantia. Flores axillares et terminales, speciosissimi, teneri.

(" Plantæ perennes paucis prolibus. Radices fasciculatæ, longissimæ, flexuosæ, lanuginosæ. Caules aut Culmi virgati, orgyales et ultrà, simplicissimi. Folia vaginantia, lata, nervosa. Pedunculi axillares racemosi. Flores magni, fragrantissimi, purpureo-violacei." R. et P.)

1. Sobralia dichotoma. *Fl. Peruv. Syst.* 232. *Prodr. t.* 26.

S. foliis oblongis acuminatis basi in petiolum brevissimum supra vaginam contractis, racemo axillari flexuoso multifloro, bracteis ovario multò brevioribus, alis columnæ brevibus, labello crispo medio lamellato.

Tabuetahue *vernaculè.*

Hab. abundè in *Peruviæ* nemoribus *Muña, Pozuzo* et *Chinchao* per runcationes in locis calidis et saxosis; Ruiz et Pavon. (*v. s. sp. in herb. Lambert.*)

Floret a Junio ad Octobrem.

Florem unicum examinavi ex herb. Lambert. Pollinia haud inveni. Lamellæ labelli 5, apice divergentes.

2. Sobralia biflora. *Fl. Peruv. Syst.* 232.

S. " bulbis fasciculatis, foliis oblongo-lanceolatis acutissimis, culmis bifloris."

Hab. in *Peruvia,* in *Pozuzo* runcationibus et calidis locis, versus *Chenisco* et *Tramo* tractus: Ruiz et Pavon.

Floret a Maio ad Septembrem.

3. Sobralia liliastrum.

S. foliis lanceolatis acuminatis, racemo brevi terminali flexuoso, bracteis acuminatis ovario longioribus, alis columnæ maximis falcatis.

Epidendrum liliastrum. *Salzm. Herb. Bah.*

Hab. ad *Bahiam*, in fruticetis sabulosis; *Salzmann.* (*hab. s. sp.*)

Partes omnes succulentas, exsiccatione contusas, examini ulteriori subjicere nequivi.

4. Sobralia ? Caravata.

S. foliis lanceolatis pubescentibus, capitulis imbricatis terminalibus.

Caravata-Miri *Vernaculè.*
Serapias Caravata. *Aubl. Guian.* 2. 816. *t.* 320.
Cymbidium hirsutum. *Willd. Sp. Pl.* 4. 94.

Hab. in sylvis *Guianæ* supra arbores; Aublet.

Flores lutei.

Dubiæ.

? 5. Sobralia amplexicaulis. *Fl. Peruv. Syst.* 233.

S. " bulbis fasciculatis, foliis cordatis amplexicaulibus, racemo terminali."

Hab. affatim in *Peruvia*, in *Chinchao* runcationibus et locis meridionalibus, florens à Maio ad Augustum; Ruiz et Pavon.

Labellum squamis linearibus apice dilaceratis conspersum. Germen calyculo 3-dentato connatum. Folia nervosa venosaque evaginata. R. et P.

? 6. Huc etiam fortassè referenda est *Bletia ciliata* Presl. Reliq. Hænk p. 99. quæ *S. dichotoma* esset, si flores majores.

Hab. in *Peruvia.*

CIV. ACANTHOPHIPPIUM.

Acanthophippium. *Blume Bijdr.* 353. *tabellen* 47.

Perianthium ventricosum. Sepala agglutinata, lateralia ungui columnæ adnata, dorsali cum petalis spatulatis fornicato. Labellum unguiculatum, cum basi longè producta columnæ elasticè articulatum, limbo trilobo indiviso, complicato: disco lamellato. Anthera carnosa, bilocularis. Pollinia 8, inæqualia, sessilia.——Herba terrestris, subcaulescens. Caulis infernè bulbosus, vaginatus. Folia oblongo-lanceolata, plicata. Pedunculus vaginatus, pauciflorus. Flores speciosi.

1. Acanthophippium Javanicum. *Blume l. c.*

A. petalis triangularibus, labelli lobis lateralibus truncatis, perianthio ovato.

Hab. in *Java*, in sylvis altioribus montis Salak; Blume

2. Acanthophippium Sylhetense.

A. petalis oblongo-lanceolatis acutiusculis, labelli lobis lateralibus acutis, perianthio obovato.

Hab. in *Sylhet*, Wallich. (*v. ic. pict. e Mus. Angl. Ind.*)

Caulis spithamæus, basi fusiformis, carnosus. Folia oblongo-lanceolata, plicata. Spica radicalis, triflora, caule multò brevior: squamis magnis, inferioribus foliaceis, vaginatus. Flores 2 poll longi, albi, inodori. Sepala agglutinata. Lamellæ labelli tres, carnosæ, denticulatæ.

CV. DORITIS.

Perianthium explanatum. Sepalum supremum et petala obtusa conformia æqualia, lateralia basi valdè obliqua cum ungue longè producta columnæ connata. Labellum deflexum, cum pede columnæ elasticè articulatum, unguiculatum, laminâ hastato-trilobâ: lineâ mediâ elevatâ. Columna alato-marginata, rostello proboscideo porrecto. Anthera ovata, acuminata. Pollinia 2, posticè biloba, caudiculâ subulatâ longissimâ, glandulâ parvâ ovatâ.——Herba epiphyta, caulescens, radices undique promens. Folia disticha. Spica axillaris, stricta, multiflora.

1. Doritis pulcherrima. *Lindl. in Wallich. Cat. no.* 7348.

Hab. in *Cochinchina,* ad sinum Turon; *Finlayson.* (*hab. s. sp. e Museo Anglo-Indico.*)

Folia oblonga, carnosa, 3½ p. longa. Spica laxa, ramosa, 1½-2-pedalis, multiflora. Sepala anticè ad basin producta, crispata. Labellum ungue canaliculato, sub lamina utrinque 1-dentato: callo parvo inter dentes.

CVI. CHELONANTHERA.

Chelonanthera § 1. *Blume Bijdr.* 382. *tabellen* 51.

Perianthium patens. Sepala æqualia. Petala linearia. Labellum cum basi columnâ articulatum, emarginatum, utrinque dente inflexo auctum. Columna erecta, petaloidea, infra apicem antherifera. Anthera bilocularis, (ex icone 4-valvis, transversè dehiscens). Pollinia 4, cava, hemisphærica, caudiculis 2 filiformibus, glandulâ hamatâ.——Herbæ epiphytæ, pseudobulbosæ, pedunculis multifloris. Flores bracteati, distichi.

Character ex Blume.

1. Chelonanthera gibbosa. *Blume l. c.*

C. "bulbis oblongis quadrangularibus subdiphyllis; foliis lanceolatis, racemis elongatis nutantibus flexuosis, labello medio bidentato."

Hab. in *Java,* in montosis, ubi supra arbores associata est; Blume.

Sepala externa ovalia, recurvata; interiora linearia, patentia. Floret Oct.—Febr. *Bl.*

2. Chelonanthera ventricosa. *Blume l. c. t.* 51.

C. "bulbis oblongis compressiusculis sulcatis diphyllis, foliis lanceolatis nervosis, scapo erecto, labello medio bidenticulato."

Hab. in *Java,* circa flumen Tjapus in monte Salak; Blume.

Sepala exteriora ovata, acuta; lateralia carinata; posticum leviter fornicatum; interna linearia. Floret Sept—Oct. *Bl.*

3. Chelonanthera sulphurea. *Blume l. c.*

C. "bulbis oblongis trigonis submonophyllis; foliis lanceolatis coriaceis, labello margine infernè utrinque carinato."

Hab. in *Java* circa flumen Tjapus in monte Salak; Blume.

Sepala exteriora oblonga, acuta, carinata, patentia; interna linearia, revoluta. Floret Sept.—Oct. *Bl.*

CVII. ACANTHOGLOSSUM.

Acanthoglossum. *Blume Bijdr.* 381.

Perianthium patulum. Sepala petalis latiora. Labellum basi ventricosum : limbo reflexo-patente, bilobo, internè bicalloso. Columna supernè libera, utrinque membranaceo-marginata. Anthera bilocularis, infra-apicilaris, rostello emarginato incumbens. Pollinia 4, obovata, glandulâ hamatâ. ——Herba epiphyta, bulbifera, habitu *Chelonantheræ.*

Character ex Blume.

1. Acanthoglossum nervosum. *Blume l. c.*

Hab. in *Java,* ad arbores in sylvis altioribus Salak ; Blume.

Floret Octobri.

CVIII. SUNIPIA.

Sunipia. *Buchanan in Rees Cyclop. sub Steli. Lindl. Orch. scelet.*

Perianthium ringens. Sepala æqualia, basi discreta ; lateralibus labello suppositis. Petala nana. Labellum posticum, integrum, petalis majus, erectum, (cum columna articulatum ?). Columna nana. Anthera dorso fixa, bilocularis : loculis discretis verticaliter dehiscentibus ! Pollinia 4, per paria caudiculis duabus affixa, glandulâ unicâ.——Herbæ epiphytæ, pseudobulbosæ, monophyllæ. Folia carnosa. Spicæ radicales, distichæ, multifloræ. Flores parvi, bracteis longis spathaceis stipati.

1. Sunipia scariosa. *Lindl. in Wall. Cat. no.* 7373.

S. spicis foliis duplò longioribus, floribus bracteis brevioribus, labello ovato basi concavo.

Hab. in *Napalia, Wallich. (hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.)*

Folia 4 poll. longa. Bracteæ carinatæ, glumaceæ. Flores albi, roseo suffusi. Sepala ovata, obtusa. Petala triplò breviora, rotundata. Labellum glaberrimum, ovatum, acuminatum, obtusum.

2. Sunipia bicolor.

S. racemis foliis subæqualibus, floribus bracteis longioribus, labello obovato apiculato serrulato-ciliato.

Hab. in *Napalia, Wallich. (v. ic. pict. e Mus. Angl. Ind.)*

Præcedente triplò minor. Folia atriora. Pseudobulbi subglobosi. Bracteæ ovatæ, acuminatæ. Sepala alba, ovato-lanceolata, acuminata, basi venis 3 purpureis : lateralia longiora, agglutinata. Petala alba, ovata, obtusa, duplò breviora. Labellum atropurpureum, obovatum, utrinque serrulato-ciliatum, apiculo obtuso glabro ad apicem.

CIX. CALYPSO.

Calypso. *Salisb. Paradis.* 89.—Cytherea. *Ib in Hort. Trans.* 1. 301.—Norna. *Wahl. Fl. Suec.* 561.—Orchidium. *Swartz in Svensk. Bot.* 518.

Perianthium patens, æquale, secundum. Labellum concavum, sub apice saccatum, trilobum : lobis lateralibus connatis intermedio dilatato barbato suppositis. Columna erecta, petaloidea. Anthera infra-apicilaris,

bilocularis. Pollinia 2, bipartita, incumbentia, in glandulam membranaceam, subquadratam, transversam sessilia.——Herba terrestris, bulbosa. Folia solitaria, plicata. Flos terminalis, solitarius, speciosus.

1. Calypso borealis. *Salisb. Parad. Lond. t.* 89.

Cypripedium bulbosum. *Linn. Sp. Pl.* 1347.
Limodorum boreale. *Willd. Sp. Pl.* 4. 123.
Cymbidium boreale. *Swartz in Nov. Act. Ups.* 6. 76.
Calypso borealis. *Hook. Ex Fl. t.* 12. *Id. Bot. Mag. t.* 2763.
Calypso americana. *R. Brown in Hort. Kew.* 5. 208.
Orchidium boreale. *Swartz in Svensk. Bot. t.* 518.
Norna borealis. *Wahlenb. Fl. Suec.* 561.

Hab. per omnes regiones septentrionales *Europæ, Asiæ* et *Americæ* in pratis collinis apricis inter lucos lætiores. (*v. v. c. et hab. s. sp.*)

Dr. Hooker is certainly right in considering the American, European and Asiatic plants as the same.

CX. EULOPHIA.

Eulophia. *R. Brown in Bot. Reg. t.* 686. (*Feb.* 1823.).—Eulophus. *Idem in Bot. Reg.* 578. (*Oct.* 1821) *absque char.*

Perianthium explanatum, sepalis petalisque ascendentibus, subæqualibus, aut omnino liberis, aut cum ungue magis minusvè producto columnæ connatis. Labellum cornutum, aut breviùs calcaratum, sessile, venis cristatis, barbatis v. omninò lævibus; sæpiùs trilobum, nunc indivisum. Columna semiteres, marginata. Anthera 1-2-locularis. Pollinia 2, posticè biloba, v. cava, caudiculâ lineari brevi, glandulâ transversâ.—Herbæ terrestres, pseudobulbosæ. Folia longa, membranacea, plicata, v. pluries costata. Scapi radicales, multiflori.

§ 1. *Genuinæ.* Folia plicata cotemporanea.
§ 2. *Desciscentes.* Folia equitantia.
§ 3. *Aphyllæ* Folia serotina. Flores penduli secundi.
† Species dubiæ.

§ I. *Genuinæ.* Folia plicata cotemporanea.

1. Eulophia explanata.

E. foliis .... racemo stricto laxo multifloro, sepalis patentissimis petalis oblongis angustioribus, labello ovato obtuso subundulato concavo brevissimè calcarato: lamellis basi conniventibus dilatatis apice divergentibus decrescentibus: duabus intermediis parallelis contiguis.

Hab. in *Zeylona, Macrae.* (*hab. s. sp.*)

2. Eulophia nuda. *Lindl. in Wall. Cat. no.* 7371.

E. foliis lanceolatis acuminatis, racemo paucifloro laxo secundo foliis longiore, sepalis petalisque lineari-oblongis obtusis, labello oblongo obtuso subundulato nudo basi brevissimè calcarato.

Dipodium Roniate. *Hamilt. Mss.*

Hab. in *India Orientali,* in colles Morang; *Hamilton.* (*hab. s. sp. e Mus. Angl. Ind.*)

3. Eulophia bracteosa. *Lindl. in Wallich. Cat. no.* 7366.

E. foliis oblongo-lanceolatis plicatis scapo terminali longioribus, bracteis foliaceis floribus subæqualibus, sepalis petalisque (latioribus) carnosis ob-

longis acutis, labello oblongo canaliculato apice retuso undulato elevato venoso versus apicem glanduloso-barbato, calcare infracto tumido acutiusculo.

Hab. in *Ind. Or.* provincia Chittagong, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

4. Eulophia grandiflora.

E. foliis lanceolatis plicatis, scapi vaginis longissimis laxiusculis acutis internodiis longioribus, bracteis acuminatis ovario longioribus, sepalis carnosis oblongis undulatis acutis, petalis retusis, labello oblongo subrepando basi angustato apice concavo disco subapice glanduloso, calcare inflexo obtuso.

Hab. in *Zeylona*; *Macrae.* (*hab. s. sp.*)

Ex habitu cum E. bracteosa consociatur. Sed nescio an scapi revera sint terminales.

5. Eulophia Promensis. *Lindl. in Wall. Cat. no.* 7365.

E. folio unico longè petiolato lineari-lanceolato scapo radicali longiore, sepalis concavis oblongis acutiusculis, petalis conformibus brevioribus obtusis, labello oblongo medio constricto basi ventricoso utrinque tumido sub apice rotundato plano processubus pluribus aggregatis carnosis truncatis munito, calcare brevi recto tumido acutiusculo.

Hab. in collibus *Promensibus*; Wallich. (*exam. s. sp. in herb. soc. Linn.*)

6. Eulophia guineensis. *Bot. Reg. t.* 686.

E. foliis latis oblongis acutis in petiolum angustatis, scapo laxo multifloro, bracteis ovario longioribus, sepalis petalisque lineari-lanceolatis acutis, labelli cucullati lobis lateralibus abbreviatis: intermedio ovato subundulato obtuso majore infrà lineis pluribus elevatis verruculatis inscripto, calcare ascendente apice incurvo.

Hab. in *Sierra Leone.* (*v. v. c.*)

Sepala et petala viridia, purpureo venosa. Labellum album, venis quibusdam roseis striatum, basi compressum, cum columna semiconnatum. Anthera ad cardinem biaurita.

7. Eulophia articulata.

E. pseudobulbis articulatim connatis, foliis ...., scapo multifloro, racemo elongato, sepalis reflexis petalisq. patentibus contortis, labelli trilobi lobo medio ovato obtuso deflexo margine crispo: disco lineis callosis crispis rugosissimo basi tuberculato.

Jangkosno *vernaculè.*
Limodorum articulatum. *Schumach. Fl. Guin.* 2. 173.

Hab. in *Guinea*, passim, Thonning.

Flores incarnati, labello violaceo. Scapus 2-4-pedalis.

8. Eulophia concolor.

E. foliis brevibus oblongis acutis concavis laxè vaginantibus, racemo terminali flexuoso paucifloro subcorymboso, sepalis petalisque oblongis acutis, labelli trilobi lobis lateralibus ascendentibus acutis intermedio convexo oblongo crenato crispato, calcare recto conico.

Limodorum concolor. *Thouars Orch. Afr. t.* 45.

Hab. in *Borbonia*; Thouars.

Flores lutescentes; *Th.*

9. Eulophia herbacea.

E. foliis oblongo-lanceolatis acutis scapo erecto brevioribus, racemo secundo, sepalis herbaceis ovato-lanceolatis acutis, petalis brevioribus oblongis obtusis acutisve, labelli trilobi lobis lateralibus abbreviatis intermedio oblongo subundulato: venis omnibus pubescentibus, calcare brevi tereti obtuso.

Hab. in *Zeylona, Macrae;* in *India septentrionali,* ad ripas fluminis *Giree,* intra seriem montium *Suen,* necnon ad ripas *Agurwal* in faciem septentr. orient. montium *Mussooree* in convallibus calidis, florens Augusto, tempore pluvioso, *Royle.* (*hab. s. sp. et v. ic. pict.*)

Folia juniora angusto-lanceolata, adulta, latiora, nitida plana, 5-costata. Sepala viridia, petalis labelloque candidis; ex ic. Royle.

10. Eulophia lurida.

E. foliis lineari-lanceolatis scapo ramoso multò brevioribus, bracteis minimis subulatis, sepalis lineari-spathulatis obtusis, petalis paulò latioribus, labelli tripartiti basi callosi lobis lateralibus obtusis recurvis: intermedio obcordato, calcare cylindraceo inflexo obtuso.

Limodorum luridum. *Afzel. in Pers. Synops.* 2. 521.

Hab. in *Sierra Leone,* Afzelius, *G. Don. (hab. s. sp. et v. v. c.)*

11. Eulophia scripta.

E. caulibus carnosis oblongis, foliis lineari-loratis subdistichis, scapis radicalibus ramosis, bracteis pedicellis brevioribus, sepalis petalisque lineari-oblongis obtusiusculis, labelli tripartiti lobis lateralibus apice dilatatis rotundatis: intermedio cuneato rotundato tuberculato bicristato, calcare brevissimo recto obtuso.

Limodorum scriptum. *Thouars Orch. Afr. tt.* 46. 47. *Ach. Rich. Orch. Maur. p.* 48.

Hab. in *Madagascaria, Forbes*; *Borbonia,* Thouars. (*hab. s. sp.*)

Flores speciosi, purpureo-lutei. *Th.*

12. Eulophia pulchra.

E. foliis oblongo-lanceolatis racemis strictis multifloris subæqualibus, sepalis petalisque oblongo-linearibus acutis, labello oblongo basi ventricoso obtuso subundulato (medio calloso?), calcare brevi recto subdidymo.

Limodorum pulchrum. *Thouars Orch. Afr. t.* 43. *Ach. Rich. Orch. Maur. p.* 49.

Hab. in insula *Borbonia,* Thouars.

Flores speciosi, purpureo-maculati.

13. Eulophia graminea. *Lindl. in Wall. Cat. no.* 7372.

E. foliis gramineis, scapo ramoso, bracteis primordialibus oblongis acutis concavis, floribus erectis in fructu pendulis, sepalis petalisque linearibus acutissimis, labello trilobo basi angustato: lobo intermedio oblongo crispo: venis tribus mediis contiguis subparallelis fimbriato-appendiculatis, calcare brevi clavato.

Hab. in *Singapur, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.)*

Affinis E. virenti, floribus minoribus primâ facie distincta. Vaginæ infimæ scapi ventricosæ.

14. Eulophia virens. *R. Br.*

E. foliis gramineis lineari-lanceolatis scapo ramoso brevioribus, sepalis pe-

petalisque oblongis obtusis basi angustatis tessellatis, labelli trilobi barbati lobis lateralibus abbreviatis intermedio ovato obtuso, calcare erectiusculo conico.

Serapias epidendræa. *Retz. Obs.* 6. 65.
Limodorum virens. *Roxb. Corom.* 1. *t.* 38. *Swartz. Nov. Act. Ups.* 6. 79. *Willd. Sp. Pl.* 4. 123.
Limodorum epidendroides. *Willd. l. c. p.* 124.

Hab. in *India Orientali*; prope *Madras* supra arbores, *Wight*; in *Zeylona* locis umbrosis, *Macrae*. (*hab. s. sp. et v. ic. pict.*)

15. Eulophia carinata.

E. foliis linearibus complicatis carnosis fractu facilibus, scapo simplici, labello concavo spatulato apice repando, calcare ecarinato.

Katou-Kaida-Maravara. *Rheede Hort. Mal.* 12. 51. *t.* 26.
Limodorum carinatum. *Willd. Sp. Pl.* 4. 124.

Hab. in terra, et in arboribus *Malabariæ*; Rheede.

Hujus speciei exemplaria nusquam inveni. Folia lata, carinata, *fractu facilia*, 3 pedes alta pollicem lata, nitentia, glabra benè distinguunt.

16. Eulophia macrostachya.

E. foliis oblongis utrinque acuminatis plicatis subtricostatis, scapo simplici radicali foliis longiore, sepalis lineari-lanceolatis acuminatis, petalis conformibus latioribus undulatis, labelli suborbicularis trilobi lobis lateralibus intermedio altè bilobo abbreviato subæqualibus: lamellis duabus nanis ad basin, calcare subrotundo inflato obtuso.

Hab. in *Zeylona* in locis umbrosis sylvarum, *Macrae*. (*hab. s. sp. et v. ic. pict.*)

Scapus 3-pedalis. Sepala et petala viridia apicibus costaque purpureis. Labellum citrinum venis purpureis pictum: lobo medio luteo. Crista antheræ solitaria dorsalis.

17. Eulophia hians. *Spreng. Syst. Veg.* 3. 720.

E. foliis (equitantibus?) ensiformibus integerrimis, scapo radicali squamis cucullatis vaginato, sepalis petalisque obtusis, labelli trilobi lobis lateralibus parvis ovatis intermedio ovato-obcordato striato-venoso, calcare tereti arcuato ovarii longitudine.

Satyrium hians. *Linn. Suppl.* 401.
Limodorum hians. *Thunb. Fl. Cap.* 76.

Hab. ad *Cap. B. Sp.*, Thunberg.

Flores 4-5, cernui, brevissimè pedicellati.

18. Eulophia ensata. *Lindl. in Bot. Reg. t.* 1147.

E. foliis lineari-lanceolatis plicatis, scapo simplici, racemo capitato, sepalis petalisque oblongis acutis, labelli trilobi lobis lateralibus abbreviatis obtusis glabris intermedio linguiformi disco barbato, calcare brevi recto conico obtuso, bracteis membranaceis venosis.

Hab. ut aiunt ad *Cap. B. Sp.*; an potius in *S. Leone?* (*v. v. c.*)

Flores flavi. An eadem ac E. barbata?

19. Eulophia atrovirens.

E. foliis oblongo-lanceolatis acutis patentibus scapo erecto simplici mul-

tifloro subæqualibus, sepalis petalisque ovatis acutis, labello cucullato trilobo : lobis rotundatis intermedio transverso, calcare subinfundibulari obtusissimo.

Hab. in *India Orientali, Wallich.* (*v. ic. pict. e Bibl. Angl. Ind.*)

Flores ochroleuci sepalis extùs purpureo-maculatis. Petalum utrumque hinc serie solitariâ punctorum sanguineorum notatum.

§. 2. *Desciscentes.* Folia equitantia.

20. Eulophia tristis. *Spreng. Syst. Veg.* 3. 720.

E. foliis ensiformibus equitantibus serrulatis scapo terminali subramoso brevioribus, bracteis acuminatis ovario longioribus, sepalis petalisque conniventibus oblongis acutis, labelli trilobi lobis lateralibus abbreviatis intermedio oblongo obtuso crispo : venis 7 subparallelis basi lamellosis apice convergentibus fimbriatis, calcare brevi obtuso, antherâ bicristatâ.

Satyrium triste. *Linn. Suppl.* 402.
Limodorum triste. *Thunb. Fl. Cap.* 74. *Willd. Sp. Pl.* 4. 124.

Hab. ad *Cap. B. Sp.* juxta Zeeko-rivier, et in summo Hottentots-Hollandberg, Thunberg, *Ecklon.* (*hab. s. sp. comm. cel. Lehmann.*)

Scapus subcompressus. Flores fusci (*s. tristes*). Labellum dorso virescentifuscum.

21. Eulophia lamellata.

E. foliis ensiformibus equitantibus integerrimis scapo terminali duplò brevioribus, bracteis acuminatis, sepalis petalisque conniventibus oblongis acutis, labelli trilobi lobis lateralibus abbreviatis intermedio oblongo obtuso crispo : venis omnibus lamellis laceris cristatis.

Hab. ad *Cap. B. Spei ; Villet.* (*hab. s. sp. comm. cel. Hooker.*)

E. tristi affinis. Flores majores, folia integerrima, labellum diversissimum.

22. Eulophia micrantha.

E. foliis ensiformibus equitantibus recurvis margine serrulatis, scapo ramoso terminali basi squamis longis membranaceis vaginato, spicis simplicibus elongatis, perianthio connivente, sepalis angustè ovatis obtusis carnosis subcarinatis, petalis tenuioribus et latioribus, labelli concavi 3-lobi lobis lateralibus divergentibus acutis intermedio rotundato sinubus sinuatis facie 3-lamellato, calcare brevi ventricoso.

Hab. ad *Cap. B. Sp.* (*v. s. sp. in herb. Hooker.*)

Tota planta sesqui-2-pedalis. Inflorescentia Dracænam quandem simulat.

23. Eulophia barbata. *Spreng. Syst. Veg.* 3. 720.

E. foliis lineari-ensiformibus recurvis integerrimis, scapo compresso flexuoso foliis duplò longiore, sepalis petalisque ovato-lanceolatis acutis, labelli trilobi lobis lateralibus minoribus intermedio oblongo crispo disco barbato, calcare obtuso.

Serapias capensis. *Linn. Mantiss.* 293.
Limodorum barbatum. *Thunb. Fl. Cap.* 75.

Hab. ad *Cap. B. Sp.* Thunberg. (*v. s. sp. in herb. Hooker.*)

Flores albidi, *Th.* Adsunt in herb. Hooker exemplaria duo, quorum alterum scapo flexuoso palmari florido, alterum plusquam sesquipedali gaudet. Folia sunt parva, graminea, recurva; bracteæ longissimæ membranaceæ; labelli lobi laterales quasi abscissi; venæ ferè omnes fimbriatæ, usque ad lobos laterales, sed citra nudæ.

§ III. *Aphyllæ.* Folia serotina. Flores penduli secundi.

24. Eulophia rupestris. *Lindl. in Wall. Cat. no.* 7368.

E. floribus pendulis subsecundis, sepalis petalisque linearibus acutis, labello trilobo basi angustato : lobis lateralibus abbreviatis intermedio oblongo dentato: lamellis 3 contiguis obsoletis integris in axin seriebusq. 5 brevibus denticulorum in laminam lobi medii.

Limodorum dubium. *Hamilt. Ic. penes D. Bauer.*
Bletia Dabia. *Don. Prodr. Nep.* 30.

Hab. in *Napalia; Wallich, Hamilton.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Nomen *Dabia* quasi vernaculum a cel. Donio citatum, nihil est nisi verbum *dubium* malè lectum.

Flores carnei; labellum sanguineo maculatum, cyaneo limbatum.

25. Eulophia campestris. *Wall. Cat. no.* 7367.

E. floribus secundis cernuis, sepalis petalisque lineari-spatulatis obtusiusculis, labello oblongo trilobo venoso : lobo intermedio rotundato transverso crenulato lineis tribus brevibus barbatis ad basin, calcare brevi conico incurvo.

Hab. in regno *Oude,* ad *Bhurtapoor, Wallich;* in dumetis densissimis vallium *Himalayensium, Royle.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia ex icone Royliana tria, serotina, lineari-lanceolata, quorum ultimum tantum perfectum. Flores fusco-purpurei, labello albido roseo-marginato. Statura nunc palmaris nunc pedalis, imo sesquipedalis.

26. Eulophia ramentacea. *Lindl. in Wall. Cat. no.* 7370.

E. aphylla, bracteis subulatis ovario brevioribus, floribus erectis, sepalis petalisque lineari-spatulatis acutis, labelli trilobi lobo intermedio undulato obtuso, lamellis disci tribus interruptis apice laceris, calcare conico obtuso.

Dipodium ramentaceum. *Hamilt. Mss.*

Hab. in *India orientali,* ad Dumdoho; *Hamilton.* (*hab. s. sp. e Mus. Angl. Ind.*)

† *Species valdè dubiæ.*

27. *Limodorum cristatum*; scapo elongato tereti remotè vaginato, floribus discretis resupinatis, labello basi ventricoso brevi calcarato, laminâ oblongâ recurvatâ medio muricato-cristatâ, lateribus deflexis crispis venosis. *Afz. in Pers. Syn.* 2. 521.

Hab. in *Sierra Leone.*

28. *Limodorum cucullatum*; scapo elongato remotè vaginato, floribus discretis, labello erecto cuculliformi trilobo medio majore emarginato, calcare brevissimo obtuso. *Afz. l. c.*

Hab. in *Sierra Leone.*

29. *Bletia stricta*; foliis radicalibus lineari-lanceolatis acutis planis tricostatis, scapo stricto vaginato erecto, floribus laxè spicatis, labello trilobo : lobo medio obcordato crenulato, calcare incurvo brevi, sepalis æqualibus. *Presl. Reliq. Hænk. p.* 98.

Hab. in insula *Luzon.*

30. *Maxillaria liliacea* (Llave et Llexars. Orch. p. 12) "radice tuberosâ, foliis ensiformibus plicatis, floribus spathâ verâ tectis."

Hab. in *Mexico* prope *Vallisoletum,* sub umbra arborum, aliquandove supra radices, floretque mensibus æstivis.—Vernaculè *Azuzena del Monte.*—*Iztactepetzacuxochitl, Icohueyo,* Hernand. 2. 237. ed. Madr. *Llave.*

Planta liliacearum habitu. Folia radicalia, bina aut terna, ensiformia, petiolata, ad basin membranis purpurinis convoluta. Scapus subpedalis, erectus, spathâ membranaceâ, monophyllâ, lateraliter dehiscente ad extremitatem cinctus. Flores nivei thyrsoidei. Bracteæ lanceolatæ, demùm, ut tota planta marcida, nigricantes. Perianthium ringens, 3 segmentis superioribus connatis, quorum 2 lateralia lineis purpurinis variegata, duobus inferioribus lunulatis convergentibus eodem modo maculatis. Labellum concolor, ovatum, carinatum, ascendens, limbo integro, ad basin punctis ochreis maculatum, obscurè calcaratum. Columna clavata, canaliculata, incurva, versus apicem amplificata. Pollinia 4, reniformia, cereacea. Anthera bilocularis, acuminata. *Ll.*

If this is rightly described it may be a new genus; but it is not improbable that it may be a Eulophia the Pollen-masses of which are inexactly mentioned; or is it not rather another species of Govenia?

CXI. DIPODIUM.

Dipodium. *R. Brown Prodr.* 1. 330.

Perianthium patens, petalis sepalisque æqualibus. Labellum subconforme, utrinque infra medium auriculatum, disco barbatum, basi saccatum et cum columna connatum. Columna erecta, marginata, semiteres. Anthera membranacea, 2-locularis? Pollinia duo, obliquè biloba, caudiculis duabus glandulæ communi affixis.——Herbæ terrestres, aphyllæ. Radix crassa, ramosa. Caules squamosi. Racemi speciosi.

1. Dipodium punctatum. *R. Br. Prodr.* 331.

D. squamis radicalibus distantibus, labello recto disco pubescente.

Dendrobium punctatum. *Smith. Exot. Bot.* 1. 21. *t.* 12.

Hab. in *Nova Hollandia* ad Portum Jackson, necnon in *Insula Van Diemen, R. Brown.* (*hab. s. sp. comm. cel. Brown.*)

2. Dipodium squamatum. *R. Br. l. c.*

D. squamis radicalibus oblongis carinatis imbricatis, labello barbato deflexo.

Ophrys? squamata. *Forst. Prodr.* 310.
Cymb. squamatum. *Swartz. Act. Holm.* 1800. 238.
Dipodium squamatum. *Smith. in Rees Suppl.*

Hab. in *Nova Caledonia,* Forster.

CXII. GALEANDRA.

Galeandra. *Lindl. Illustr. of Orch. Pl. Gen. t.* 8.

Perianthium patens v. connivens, sæpiùs (an semper?) sepalis petalisque ascendentibus, liberis. Labellum infundibuliforme, calcaratum, indivisum, sessile, intùs læve, margine nunc fimbriato. Columna erecta, membranaceo-alata, clinandrio declivi. Anthera galeæformis, cristâ recurvâ cum dorso clinandrii cardinatâ. Pollinia 2, posticè excavata, caudiculâ brevi, cum glandula elongata basi divergenti-biloba articulatâ.——Herbæ terrestres, foliis plicatis, scapis radicalibus v. racemis terminalibus.

1. Galeandra Baueri. *Lindl. Illustr. of Orch. Pl. l. c.*

G. foliis oblongis acutis, racemo terminali paucifloro folio superante, sepalis petalisque lineari-oblongis acutiusculis, labello maximo antico repando emarginato apiculato, calcare ovario longiore.

Hab. in *Guiana*, Martin. (*v. ic. Bauer.*)

2. Galeandra gracilis.

G. foliis lineari-lanceolatis acuminatis scapo vaginato radicali brevioribus, sepalis petalisque explanatis ovatis acutis, labello antico infundibulari obtuso margine fimbriato.

Eulophia gracilis. *Lindl. in Bot. Reg. t.* 742.
Limodorum ciliatum. *Schumach. Pl. Guin.* 2. 174.

Hab. in *Sierra Leone, G. Don,* Thonning. (*v. v. c.*)

Scapus 1½-2-pedalis. Flores virides, apicibus sanguineo-maculatis.

3. Galeandra extinctoria.

G. foliis ...., racemo erecto simplici subsecundo paucifloro, sepalis conniventibus(?) obovatis serratis, petalis brevioribus integerrimis obtusis, labello postico extinctoriiformi obtuso margine fimbriato.

Hab. in *Sierra Leone, G. Don.* (*hab. s. sp.*)

An aphylla?

CXIII. ZYGOPETALUM:

Zygopetalum. *Hooker. in Bot. Mag. t.* 2748.

Perianthium explanatum, sepalis petalisque ascendentibus, subæqualibus, cum ungue producto columnæ connatis. Labellum muticum, indivisum, patens, ungue ascendente: cristâ magnâ transversâ carnosâ. Columna brevis, arcuata, semiteres. Anthera subbilocularis. Pollinia 2, bipartibilia, in glandulam transversam subsessilia.——Herbæ terrestres, subacaules, foliis plicatis patentibus. Flores speciosi, labello cæruleo.

This genus is extremely near Eulophia, to which I once reduced it. The subsequent discovery of other species has convinced me that I was wrong, and that it has characters of its own sufficiently pronounced to entitle it to a station by itself.

1. Zygopetalum Mackaii. *Hooker l. c.*

Z. foliis lorato-lanceolatis striatis apice recurvis racemo brevioribus, sepalis petalisque oblongo-lanceolatis acutis, labello obcordato pubescente callo baseos crassissimo retrorsum bilobo.

Eulophia Mackaiana. *Lindl. in Bot. Reg. t.* 1433.
Zygopetalum Mackaii. *Lodd. Bot. Cab. t.* 1664.

β. crinitum, venis labelli magis pilosis.

Zygopetalum crinitum. *Lodd. Bot. Cab.* 1687.

Hab. in *Brazilia.* (*v. v. c.*)

Sepala et petala viridia, sanguineo-maculata; labellum albidum maculis purpureis.

2. Zygopetalum maxillare. *Lodd. Bot. Cab. t.* 1776.

Z. foliis lanceolatis undulatis acuminatis racemo flexuoso longioribus, sepalis petalisque ovato-oblongis acutis, labello obovato callo baseos maximo lunato margine crispo.

Hab. in *Brasilia, Loddiges.* (*v. v. c. comm. amic. Loddiges.*)

Sepala et petala viridia, sanguineo-subvittata; labellum cæruleum, unicolor, callo multò intensiore.

3. Zygopetalum rostratum. *Hooker in Bot. Mag. t.* 2819.

Z. foliis lato-lanceolatis patentibus scapo sub-unifloro longioribus, sepalis petalisque lineari-lanceolatis undulatis acuminatis, labello subquadrato callo baseos lunato margine crispo, clinandrio alato dentato.

Hab. in *Demerara,* Parker.

Sepala et petala fusco-viridia; labellum album venis roseis, callo margine cæruleo-purpureo. Anthera dorso in subulam erectam producto.

CXIV. CYRTOPODIUM.

Cyrtopodium. *R. Brown in Hort. Kew. ed.* 2. 5. 216.

Perianthium explanatum, æquale, sepalis petalisque liberis. Labellum unguiculatum, cum basi productâ columnæ continuum, tripartitum, explanatum, ecalcaratum. Columna semiteres. Anthera bilocularis. Pollinia 2, posticè biloba, caudiculâ lineari brevi, glandulâ ovatâ.——Plantæ terrestres, fruticosæ, caulibus fusiformibus carnosis, foliis plicatis, scapis radicalibus vaginatis, floribus speciosis.

N. B. Character vegetationis tantùm ad C. Andersonii.

1. Cyrtopodium Andersonii. *R. Br. in H. Kew.* 5. 216. *Bot. Mag. t.* 1800.

C. sepalis petalisque ovatis undulatis, labelli lobis lateralibus oblongis obtusis intermedio ovato rotundato convexo disco concavo.

Cymbidium Andersonii. *Bot. Rep.* 651.

Hab. in *India Occidentali.* (*v. v. c.*)

Flores flavi. Discus labelli inter lobos laterales callosus.

2. Cyrtopodium glutiniferum. "*Raddi in Act. Soc. Ital.* xix. c. ic." *Colla Illustr. et Ic. Hort. Ripul. App.* 2. *p.* c.

Hab. in *Brasilia, Raddi.*

I know little of this. It would appear to be distinct from C. Andersonii, as Raddi must have contrasted it with that species; unfortunately I have not the *Acta Italiana* to consult. A plant in the Garden of the Horticultural Society, sent by the Honble. Mr. Strangways is not distinguishable from C. Andersonii.

From all the fleshy stemmed Orchideæ a viscid extract is obtained and used for glue in Brazil.

3. Cyrtopodium punctatum.

C. foliis lanceolatis plicatis, scapo paniculato, vaginis maximis laxis membranaceis, sepalis petalisque undulatis acutis maculatis, labelli lobis lateralibus cuneatis intermedio rotundato papilloso.

Helleborine ramosissima cauliculis et floribus maculosis. *Plum. Sp.* 9. *t.* 187.
Epidendrum punctatum. *Linn. Sp. Pl.* 1349. *Willd. Sp. Pl.* 4. 116.

Hab. in *Hispaniola.* (*hab. s. sp. communic. cel. Mackenzie.*)

Discus labelli inter lobos laterales tuberculatus.

CXV. CYRTOPERA.

Perianthium explanatum, sepalis petalisque ascendentibus subæqualibus cum ungue longè producto columnæ connatis. Labellum ecalcaratum, concavum, subventricosum, trilobum, venis axeos callosis v. cristatis, v. tuberculatis. Columna semiteres, marginata. Anthera 1-2-locularis. Pollinia 2, posticè biloba, caudiculâ brevi subtriangulari.——Herbæ terrestres, foliis plicatis, caulibus carnosis, nunc fusiformibus elongatis, nunc abbreviatis. Flores racemosi, speciosi, scapis radicalibus.

1. Cyrtopera plantaginea.

C. foliis oblongo-lanceolatis 5-costatis racemo radicali brevioribus, sepalis lineari-lanceolatis, petalis latioribus brevioribus, labelli lobis lateralibus erectis incurvis rotundatis intermedio ovato obtuso undulato: lamellis disci duabus basi tenuibus connatis medio incrassatis apice undulatis, venis tribus brevibus callosis interjectis.

Limodorum plantagineum. *Thouars. Orch. Afr. t.* 41. 42.

Hab. in *Madagascaria,* Thouars, *Forbes.* (*hab. s. sp.*)

Caulis 15-poll. altus. Flores purpurascentes. *Th.*

2. Cyrtopera Woodfordii.

C. caulibus fusiformibus carnosis, foliis lanceolatis plicatis patentibus, scapo radicali multifloro, bracteis subulato-lanceolatis, sepalis lineari-lanceolatis acutis, petalis oblongis conniventibus brevioribus, labelli gibbosi lobis lateralibus rotundatis intermedio emarginato basi bicorni.

Cyrtopodium Woodfordii. *Bot. Mag. t.* 1814. *Lindl. in Bot. Reg. t.* 1508.

Hab. in insula *Trinitatis; Martinicâ, Richard, Isert.* (*v. v. c. et s. sp. in herb. Vahl. et Hornem.*)

Flores virides, labello purpureo.

3. Cyrtopera scabrilinguis.

C. foliis oblongo-lanceolatis basi angustatis, scapo erecto multifloro, bracteis acuminatissimis, sepalis petalisque lineari-oblongis obtusiusculis falcatis, labelli trilobi lobis lateralibus rotundatis intermedio ovato obtuso longiore: totâ facie papillis truncatis densissimis versus callum oblongum medio hypochilii situm decrescentibus obsitâ.

Hab. in *Peruvia, Ruiz et Pavon.* (*exam s. sp. in herb. Lambert.*)

Spica faciem habet omnino C. Woodfordii.

4. Cyrtopera flava. *Lindl. in Wall. Cat. no.* 7364.

C. foliis longis lanceolatis plicatis, scapo stricto multifloro, sepalis petalisque ovatis acutis, labelli trilobi lobis lateralibus rotundatis intermedio angustiore obtuso crispo, venis tribus ramentaceis.

Hab. in *India orientali*; in montes *Morang, Hamilton*; in convallibus *Himalayensibus* infra *Surkunda, Shalma,* et *Mussooree, Royle.* (*hab. s. sp. e Mus. Angl. Ind.*)

Scapus tripedalis. Flores lutei, unicolores, speciosissimi.

5. Cyrtopera obtusa.

C. foliis longis lanceolatis plicatis, scapo stricto multifloro, sepalis petalisque obtusissimis, labelli trilobi lobis lateralibus abbreviatis obtusis intermedio oblongo obtuso: axi elevato carnoso basi bituberculato.

Hab. in *India Orientali*; ad ripas fluminis *Tonse* prope *Deokhutul, Royle.* (*v. s. sp. in herb. Royle et ic. pict.*)

Præcedenti valdè affinis, floribus minùs numerosis, scapo graciliore, bracteis sepalis petalisque obtusissimis, denique labelli fabricâ abundè diversa.

6. Cyrtopera bicarinata. *Lindl. in Wall. Cat. no.* 7363.

C. aphylla?, scapo gracili distanter vaginato, racemo compacto oblongo, sepalis petalisque lineari-oblongis undulatis acutis, labelli trilobi lobis lateralibus truncatis integris intermedio cuneato undulato bilobo, pede columnæ elongato.

Epipactis? bicarinata. *Hamilt. ic.*

Hab. in *India orientali,* prope *Patgang, Hamilton.* (*hab. s. sp. e Mus. Angl. Ind.*)

Flores virentes; labello lilacino striato, medio flavo.

7. Cyrtopera plicata. *Lindl. in Wall. Cat. no.* 7362.

C. foliis acuminatis, scapo laxè vaginato 6-8-floro, sepalis lineari-lanceolatis petalisque latioribus acutis, labelli trilobi basi bicallosi lobis lateralibus rotundatis erectis intermedio subrotundo retuso.

Hab. in *India Orientali,* in montes Morang, *Hamilton.* (*hab. s. sp. e Mus. Angl. Ind.*)

Scapus sesquipedalis. Folia juniora tantum vidi.

8. Cyrtopera pedicellata.

C. foliis subsolitariis ensiformibus plicatis, scapo laxè vaginato, floribus racemosis cernuis, sepalis ovato-lanceolatis acutiusculis patenti-erectis lateralibus angulatis, petalis subæqualibus, labelli trilobi lobis oblongis patentibus: intermedio longiore subconcavo supra sulcato ramentis brevissimis obsito.

Satyrium capense. *Linn. Sp. Pl.* 2.
Satyrium pedicellatum. *Linn. Suppl.* 402.
Serapias pedicellata. *Thunb. Prodr.* 3.
Cymbidium pedicellatum. *Swartz. in Schrad. Diar.* 1799. 224. *Thunb. Fl. Cap.* 72.

Hab. ad *C. B. Sp.* prope Zeeko-rivier et alibi; Thunberg.

Scapus pedalis, et ultrà.

9. Cyrtopera? gigantea.

C. foliis carnosis equitantibus ensiformibus recurvatis scapo erecto brevioribus, racemo multifloro, sepalis petalisque ovatis acutis patentibus, labelli hastati lobis lateralibus deltoideis obtusis utrinque productis intermedio majore oblongo integro convexo: disco longitudinaliter plicato limbo undulato.

Satyrium giganteum. *Linn. Suppl.* 402.
Limodorum giganteum. *Thunb. Prodr.* 4.
Cymbidium giganteum. *Swartz. in Schrad. Diar.* 1799. 224. *Willd. Sp. Pl.* 4. 107. *Thunb. Fl. Cap.* 73.

Hab. ad *Cap. B. Spei,* juxta Zeekoe-rivier, prope ostium maris; Thunberg.

Epiphyta. Scapus bipedalis et ultrà. Flores flavescentes. Labellum basi subtùs album, supernè purpureo striatum. *Th.*

CXVI. LISSOCHILUS.

Lissochilus. *R. Brown in Lindl. Coll. Bot. t.* 31. (1821).

Perianthium explanatum. Sepala herbacea, parva, reflexa, v. patentia, libera. Petala maxima, patentia, alæformia. Labellum saccatum, concavum, subintegrum, v. trilobum, cum basi columnæ sæpiùs connatum. Columna erecta, brevis, semiteres. Anthera bilocularis, cristata. Pollinia 2, posticè biloba, caudiculâ lineari brevi, glandulâ triangulari.—— Herba terrestris, pseudobulbosa, acaulis. Folia striata v. plicata. Racemi radicales. Flores speciosi.

This genus is scarcely distinguishable from Eulophia except by the great disproportion between the sepals and petals.

1. Lissochilus speciosus. *R. Br. l. c.*

L. foliis carinatis, scapo multifloro, sepalis ovatis reflexis subæqualibus, petalis oblongis, labello cum basi columnæ connato basi auriculato: epichilio convexo sulcato emarginato, gibbo brevi convexo acutiusculo.

Lissochilus speciosus. *Bot. Reg. t.* 573.

Hab. ad *Cap. B. Sp, Griffin.* (*v. v. c.*)

2. Lissochilus streptopetalus.

L. foliis plicatis, scapo radicali multifloro, sepalis oblongis obtusis patentibus, petalis duplò latioribus basi tortis, labelli trilobi lobis lateralibus ascendentibus obtusis intermedio convexo rotundato emarginato 3-costato, gibbo conico abbreviato.

Eulophia streptopetala. *Lindl. in Bot. Reg. t.* 1002. *Graham in Bot. Mag.* 2931.

Hab. in *Brazilia, Hortulani.* An potius *Africana*? *(v. v. c.)*

Sepala viridia, purpureo seriatim maculata. Petala labellumque vitellina.

3. Lissochilus parviflorus.

L. foliis ...., scapo 6-8-floro, sepalo supremo ovato concavo unguiculato reflexo lateralibus petalis subæqualibus patentibus, petalis oblongis subunguiculatis, labello sublibero basi auriculato: epichilio oblongo obtuso 3-carinato, gibbo porrecto obtuso anticè sulcato.

Hab. ad *Cap. B. Sp.* in Stony Vale, *Dr. Gill.* (*exam. s. sp. in herb. Hooker.*)

4. Lissochilus macranthus.

L. bracteis maximis oblongis convolutis cuspidatis, sepalis lineari-oblongis obtusis reflexis æqualibus, petalis latè oblongis obtusissimis, labello sublibero basi infundibulari abruptè acuminato: lobis lateralibus rotundatis intermedio ovato crenato.

Hab. ad *Boney* in *Africa æquinoctiali*, *H. Shepherd.* (*v. s. sp. in herb. Hooker.*)

Planta speciosissima. Folia ignota. Petala 1½ poll. longa. Fabricam labelli haud benè vidi.

5. Lissochilus arabicus.

L. foliis oblongo-lanceolatis plicatis, racemo laxo multifloro, sepalis oblongis obtusis patentissimis inferioribus duplò longioribus, petalis oblongis obtusis subunguiculatis, labelli lobis lateralibus acutis: intermedio obovato convexo venis 5 elevatis lamellatis, gibbo conico obtuso anticè carinato.

Orchis flava. *Forsk. Cent.* 6. 156.

Hab. in *Arabia*, prope Moschajam Djygàb, *Forskäl.* (*v. s. sp. in herb. Vahl.*)

Sic in schedis Forskälii; forte vox moschaia vult templum, angl. mosque.

CXVII. NOTYLIA.

Notylia. *Lindl. in Bot. Reg.* 930. (1825.)

Perianthium explanatum, æquale; sepalis 2 lateralibus connatis labello suppositis. Labellum liberum ecalcaratum, patentissimum, integrum, medio callosum. Columna erecta, teres, acuminata. Stigma: rima verticalis. Anthera dorsalis, unilocularis, cum stigmate parallela. Clinandrium planum, anticè callosum, posticè marginatum. Pollinia duo integra, caudiculâ elongato-cuneatâ, glandulâ minutâ.——Herbæ epiphytæ. Folia solitaria, striata, stipitata, Pleurothallidis more. Spicæ radicales. Flores inconspicui.

1. Notylia punctata. *Lindl. l. c.*

N. racemo pendulo, labello obcuneato unguiculato acuto basi calloso, sepalis petalisque obtusis.

Gomeza tenuiflora. *Lodd. Bot. Cab.*
Pleurothallis punctata. *Ker in Bot. Reg. t.* 759.

Hab. in insula *Trinitatis*; (*v. v. c. comm. dom. Bateman.*)

2. Notylia multiflora. *Lindl. l. c.*

N. racemo erecto? labello cordato-ovato acuminato ecalloso longè unguiculato, sepalis petalisque acutissimis.

Pleurothallis sagittifera. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 365. *t.* 91. *Synops.* 1. 347.

Hab. supra arbores juxta *Turbaco*, regione subcalidâ regni *Novogranatensis*, alt. 180 hexap; Humb. et Bonpl.

CXVIII. MASDEVALLIA.

Masdevallia. *Fl. Per. Prodr.* 122. *t.* 27.

Perianthium clausum; sepalis acuminatis v. aristatis in tubum campanulatum connatis. Petala nana. Labellum nanum, oblongum, concavum, integrum, cum columnâ articulatum. Columna erecta, linearis, canaliculata. Anthera .... Pollinia duo, caudiculâ brevi.——Herbæ foliis Pleurothallidis, scapis unifloris.

1. Masdevallia uniflora. *Fl. Per. Syst.* 238. *Humb. et Kunth. N. G. et Sp.* 1. 361. *t.* 89.

M. foliis oblongo-spathulatis, pedunculis unifloris longissimis, sepalis aristatis.

Rima-Rima *vernaculè.*

Hab. in *Huassahuassi* locis saxosis; Ruiz et Pavon; in locis subfrigidis regni *Quitensis,* alt. 1180-1600 hexap. Humb. et Bonpl.

2. Masdevallia caudata.

M. foliis obovato-oblongis scapo paulò brevioribus, sepalis longissimè aristato-caudatis.

Hab. in subfrigidis regni *Novogranatensis,* prope *S. Fortunato,* florens Junio; *Gudot.* (*hab. s. sp.*)

3. Masdevallia infracta.

M. foliis obovato-oblongis brevè petiolatis scapi longitudine, floribus ventricosis sub sepalis lateralibus infractis, sepalis longè aristatis.

Hab. supra arbores in montes Organ, *Brasiliæ*; (*v. ic. pict. in herb. Hooker.*)

Flores violacei, basi pallidiores, aristis luteis.

CXIX. CRYPTOCHILUS.

Cryptochilus. *Wallich Tent. p.* 36.

Perianthium tubulosum, fauce contractum, basi anticè gibbosum. Sepala ferè omninò connata, apice tantùm libera. Petala libera, paulò minora. Labellum indivisum, liberum, cum basi productâ columnæ continuum. Columna semiteres: clinandrio 4-dentato. Anthera 2-locularis. Pollinia 8, paribus 4 glandulæ communi adhærentia.——Terrestris, pseudobulbis aggregatis. Folia semicoriacea, striata, Spica secunda, multiflora.

1. Cryptochilus sanguinea. *Wall. l. c. t.* 26.

Hab. in *Napalia,* ad cacumen Chandaghiry supra saxa; etiam in montibus Cachar, *Sylhet* confinibus, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Flores sanguinei, pollicares, pubescentes.

CXX. IONOPSIS.

Ionopsis. *Humb. et Kunth. Nov. Gen. et Sp.* 1. 348.——Iantha. *Hooker Exot. Fl.* 113.

Perianthium clausum. Sepala lateralia basi approximata cum basi labelli connata. Petala sepalis conformia. Labellum sepalis multò majus, basi saccatum, ungue bicalloso columnâ parallelo, laminâ explanatâ patente bilobâ. Columna erecta, aptera, semiteres, rostello rostrato. Anthera 1-locularis rostrata. Pollinia 2, posticè sulcata, caudiculâ lineari inclusâ, glandulâ obovatâ.——Herbæ epiphytæ, acaules. Folia coriacea. Scapi paniculati, vaginati. Flores parvi, pallidi.

1. Ionopsis testiculata.

I. foliis tereti-subulatis, sepalis acutis anticè didymo-ventricosis, labello ovato-acuminato.

Epidendrum Satyrioides. *Swartz. Prodr.* 123.
Dendr. testiculatum. *Swartz. Fl. Ind. Occ. p.* 1533.

Hab. in arboribus (Crescentia) montium *Hispaniolæ* et *Jamaicæ* rarior; Swartz.

Flores vernales, minuti, odore *Violæ odoratæ* fragrantes, albi; labello petalisque sanguineo-venosis.

2. Ionopsis utricularioides. *Lindl. Coll. Bot. t.* 39. A.

I. foliis lineari-oblongis, sepalis petalisque obtusis anticè non ventricosis, labello obovato emarginato basi bituberculato.

Epidendrum utricularioides. *Swartz. Prodr.* 122.
Dendr. utricularioides. *Swartz. Nov. Act. Ups. v.* 6. 83. *Willd. Sp. Pl. v.* 4. 133.
Iantha pallidiflora. *Hooker Exot. Fl. t.* 113.

Hab. in insula *Trinitatis*; *Mexico* super arbores Hæmatoxylum, Citrum, &c.; in campis siccissimis *Jamaicæ, Swartz!*; supra arbores Coffeæ in *Parahiba, Merkel.* (*v. v. c. et s. sp. in herb. Vahl. et Hornem.*)

An duæ species hic confusæ?

3. Ionopsis pulchella. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 348. *t.* 83. *Synops.* 1. 335.

Hab. locis temperatis subcalidis regni *Novogranatensis* inter Carthaginem et Bugam, ad truncos Psidii pomiferi et Crescentiæ Cujete, alt. 483 hexap. Humb. et Bonpl.

Flores violacei.——Vix aliter differt ab *I. utricularioide*; verosimiliter sunt eædem.

CXXI. RODRIGUEZIA.

Rodriguezia. *Flor. Peruv. Prodr.* 115. *t.* 25.—Gomeza. *R. Brown in Bot. Mag.* 1748.

Perianthium patens, subæquale, sepalis 2 lateralibus connatis labello suppositis. Labellum integrum, unguiculatum, basi cornutum, medio callosum; ungue cum columnâ parallelo. Columna teres apice barbata. Anthera unilocularis, carnosa. Clinandrium nudum, retrorsùm declive. Pollinia 2, posticè excavata, caudiculâ elasticâ.——Herbæ epiphytæ, subpseudobulbosæ. Folia coriacea, v. membranacea, plicata. Spicæ secundæ. Flores ~~speciosi~~.

1. Rodriguezia secunda. *Humb. et Kunth. N. G. et Sp.* 1. 367. *t.* 92.

R. pseudobulbis compressis ovalibus, foliis lanceolatis apice emarginatis obliquis, spicâ cylindraceâ foliis longiore recurvâ, sepalo supremo fornicato, petalis ovatis obtusis, labello abruptè deflexo disco calloso apice cuneato emarginato.

Hab. in insula *Trinitatis, Ryan.* in herb. Vahl; in locis calidis et subtemperatis Provinciæ *Popayanensis*, prope Carthaginem in truncis Crescentiæ Cujete, alt. 500 hexap. Humb. et Bonpl. (*v. v. c.*)

Flores atro-rosei.

2. Rodriguezia lanceolata. *Fl. Peruv. Prodr.* 219.

R. "bulbis obovatis, foliis lanceolatis striatis, scapis racemosis dependentibus."

Hab. in *Tarmæ* provinciæ montibus, vulgò Montañes de los Andes, ad *Vitoc, Palca, Collac*, et *Monobamba* vicos; R. et P.

3. Rodriguezia ensiformis. *Fl. Peruv. Prodr.* 218.

R. " bulbis oblongis, foliis ensiformibus lineatis, scapis racemosis erectis."

Hab. in nemoribus *Pozuzo* supra saxa et arbores, versus *Cheniço* et *Tramo* tractus; Ruiz et Pavon.

4. Rodriguezia recurva. *Lindl. in Hort. Trans. v. 7. p. 67.*

R. foliis lanceolatis plicatis, racemo recurvo, petalis sepalisque undulatis, labello revoluto emarginato.

Gomeza recurva. *Bot. Mag. t.* 1748.

Hab. in *Brasilia, Douglas.* (*v. v. c*)

Flores lutei.

5. Rodriguezia planifolia. *Lindl. in Hort. Trans. v. 7. p. 67.*

R. foliis binis planis lineari-lanceolatis utrinque angustatis subaveniis, racemis recurvis.

Gomeza recurva. *Bot. Cab. t.* 660.

Hab. in *Brazilia.* (*v. v. c.*)

6. Rodriguezia suaveolens.

R. pseudobulbis oblongis compressis, foliis oblongo-lanceolatis striatis, scapo erecto multifloro, sepalis petalisque acuminatis, labello ovato reflexo basi longitudinaliter bituberculato membranisque duabus erectis.

Pleurothallis foliosa. *Hooker in Bot. Mag. t.* 2746.

Hab. in *Brasilia.*

Flores odore *Primulæ veris*, lutescentes, labello luteo.

CXXII. MACRADENIA.

Macradenia. *R. Brown in Bot. Reg.* 612. (1822.)

Perianthium explanatum, liberum, subæquale. Labellum sessile, cucullatum, concavum, indivisum, acuminatum. Columna erecta, labello æqualis, semiteres, clavata, lobis lateralibus apicis in cucullum antheram amplexantem conniventibus; rostello longo subulato. Anthera bilocularis, rostro producto rostellum involvente. Pollinia duo, solida, caudiculâ cuneatâ basi longe angustatâ, glandulâ ovali.——Herba epiphyta, pseudobulbosa. Folia coriacea. Scapi radicales, multiflori.

1. Macradenia lutescens. *Brown l. c. t.* 612

Hab. in insula *Trinitatis.*

Scapus erectus, foliis brevior. Flores luteo-virides, laciniis intus purpureo-fusco marmoratis.

CXXIII. CRYPTARRHENA.

Cryptarrhena. *R. Brown in Bot. Reg. t.* 153 (1816.)

Perianthium explanatum. Sepala libera, petalis obovatis æqualia. Labellum dependens, unguiculatum, ecalcaratum, limbo convexo truncato utrinque bicorni. Columna nana, tumida, aptera. Anthera apice cu-

cullato columnæ inclusa. Pollinia 4.——Herba acaulis. Folia cæspitosa, coriacea. Scapus terminalis, multiflora. Flores parvi lutei.

Char. ex opere et icone citato. An hujus tribûs. Descriptio Brownii valdè manca.

1. Cryptarrhena lunata. *Brown in Bot. Reg.* 153.

Hab. in *Jamaica.*

CXXIV. CUITLAUZINA.

Cuitlauzina. *La Llave et Lexarz. Nov. Veg.* 32. (1825.)

Perianthium explanatum, sepalis petalisque subrotundis carnosis, ut plurimùm irregularibus. Labellum unguiculatum, flabelliforme; ungue canaliculato, limbo bilobo undulato rugoso. Columna brevis, tumida, apice auriculas tres petaloideas gerens. Anthera petaloidea, unilocularis, cucullata. Pollinia 2, pyriformia, cava, caudiculâ unicâ.——Herba epiphyta, pseudobulbis depressis rugatis. Folia coriacea. Scapus nudus! pendulus, multiflorus, radicalis. Flores speciosi.

Char. ex autor. citat.

1. Cuitlauzina pendula. *Llave l. c.*

Hab. in *Mexico,* supra arbores juxta Jesus del Monte, prope Vallisoletum, florens Junio et Julio; Llave.

Folia bina, lanceolata, basi equitantia. Flores odoratissimi, albi aut violacei, purpureo-variegati. Labellum concolor discolorve, ungue lutescente punctis coccineis miniato. Anthera alæque candidæ. *Llave.*

CXXV. ONCIDIUM.

Oncidium. *Swartz. Act. Holm.* 239. 1800. *Brown in Hort. Kew.* 5. 215.

Perianthium explanatum. Sepala sæpius undulata: lateralibus nunc sub labello connatis. Petala conformia Labellum maximum, ecalcaratum, cum columna continuum, variè lobatum, basi tuberculatum v. cristatum. Columna libera, semiteres, apice utrinque alata. Anthera semibilocularis, rostello nunc abbreviato, nunc elongato rostrato. Pollinia 2, posticè sulcata, caudiculâ planâ, glandulâ oblongâ.——Herbæ epiphytæ, nunc pseudobulbosæ. Folia coriacea. Scapi paniculati vaginati, rariùs simplices. Flores speciosi, lutei, sæpiùs maculati, rarò albi.

A. *Labellum 3-lobum.* (Euoncidium.)
§. 1. Folia plana, v. complicata.
a. Sepala lateralia connata.
* Labelli laciniæ lat. nanæ v. obliteratæ.
** Labelli laciniæ lat. intermediæ longitudine æquales.
*** Labelli laciniæ lat. intermediâ majores.
b. Sepala lateralia libera.
* Labelli laciniæ lat. nanæ v. obliteratæ.
** Labelli laciniæ lat. intermediæ longitudine æquales.
*** Labelli laciniæ lat. intermediâ majores.
§. 2. Folia triquetra, v. teretia.
B. *Labellum integerrimum.* (Genus?)

A. *Labellum 3-lobum.* (Euoncidium.)

§. 1. Folia plana, v. complicata.

a. *Sepala lateralia connata.*

* Labelli laciniæ laterales nanæ, v. obliteratæ.

1. Oncidium crispum. *Lodd. Bot. Cab.* 1854.

O. pseudobulbis oblongis sulcatis rugosis diphyllis, foliis lanceolatis coriaceis acutis, scapo simplici multifloro, sepalis recurvis undulatis obtusis lateralibus semiconnatis, petalis duplò majoribus oblongis undulatis unguiculatis, labelli lobis lateralibus cornuformibus recurvis nanis intermedio maximo unguiculato subrotundo-cordato undulato, cristâ duplici serie deltoideâ dentatâ, columnæ alis rotundatis denticulatis carnosis.

Hab. in *Brazilia* in montibus Organ supra arbores mortuos. (*v. ic. pict. in herb. Hooker.*)

Folia 6-7-poll. basi purpureo maculata. Scapus ascendens simplex, 50-60-florus. Flores aurantiaci luteo limbati, diametro 3-pollicari.

2. Oncidium nubigenum. *Lindl. in Hooker Bot. Misc. ined.*

O. pseudobulbis 1-2-phyllis, foliis lanceolatis acutis, scapo simplici paucifloro (3-10), sepalis lateralibus rectis semiconnatis petalisque oblongis acutis undulatis, labelli lobis lateralibus nullis intermedio subrotundo subsexlobo, cristâ trituberculatâ compressâ, columnæ alis rotundatis carnosis.

Hab. in *Andium Peruvianorum* jugo *Assuay* supra truncos arborum putrescentes, alt. 14,000 ped. rarò infrà, florens Augusto, *Jamieson.* (*exam. s. sp. in herb. Hooker.*)

Folia $2\frac{1}{2}$ poll. Scapus spithamæus. Flores magnitudine O. bifolii pallidè purpurei.

3. Oncidium viperinum. *Lindl. l. c.*

O. foliis lineari-lanceolatis acutis planis, scapo simplici cernuo flexuoso racemoso denso multifloro, sepalis lateralibus basi connatis divaricatis petalisque latioribus lanceolatis undulatis recurvis acutis, labelli lobis lateralibus obsoletis denticulatis semisagittatis intermedio subrotundo-reniformi plano subbilobo, cristâ medio tuberculatâ basi et apice bicorni, columnæ alis parvis rotundatis.

Hab. supra truncos arborum emortuos solo pingui in *Uruguay.* (*exam. s. sp. in herb. Hooker.*)

This closely resembles O. bifolium, differing chiefly in the acute, spreading or recurved petals, in the lower sepals being united only at the base, in the form of the tubercles of the crest, and in the flowers being more closely arranged. The crest when seen in profile resembles strikingly a cluster of young vipers' heads.

4. Oncidium bifolium. *Sims in Bot. Mag. t.* 1491.

O. pseudobulbis oblongis diphyllis, foliis lanceolatis patentibus planis, scapo simplici cernuo racemoso laxo multifloro, sepalis (quorum lateralia semiconnata) petalisque obtusis concavis undulatis, labelli lobis lateralibus nanis obtusis recurvis intermedio maximo subunguiculato reniformi plano bilobo repando, cristâ medio interruptè callosâ utrinque tuberculis linearibus patentibus munitâ, columnæ alis rotundatis integris.

O. bifolium. *Loddiges Bot. Cab. t.* 1845.

Hab. in *Monte-Video.*

Folia 5-6-pollic. 7-8 lin. lata. Scapi 8-pollices longi, imò pedales 6-12-flori. Sepala et petala luteo-olivacea rubro maculata. Labellum luteum immaculatum.

5. Oncidium pauciflorum. *Lindl. Coll. Bot. p.* 27.

O. foliis lineari-lanceolatis complicatis acuminatis subfalcatis integris, scapo simplici apice 2-3-floro, sepalo supremo unguiculato lateralibusque connatis cochleatis, petalis majoribus acutis, labelli lobis lat. nanis rotundatis runcinatis: intermedio subsessili reniformi bilobo, cristâ 5-lobâ, columnæ alis acinaciformibus.

Epidendrum acinaciforme. *Pavon in Herb. Lamb.*

Hab. in *Mexico, Pavon.* (*exam. s. sp. in herb. Lambert.*)

Pseudobulbi nulli. Sepala petalis multò minora, obtusa, inferiùs emarginata. Labellum petalis duplò longius; crista lamellâ unâ bilobâ a tergo, tribusque minoribus quarum intermedia major a fronte. Flores parvi maculati.

6. Oncidium tetrapetalum. *Willd. Sp. Pl.* 4. 112.

O. foliis lanceolatis acutis falcatis carinatis complicatis integris, scapo simplici v. paniculato multifloro, sepalis petalisque lanceolatis acuminatis: inferioribus in unum connatis cymbiforme labelli longitudine apice divergenti-bilobum, labelli lobis lateralibus linearibus: intermedio reniformi unguiculato emarginato, cristâ 5-tuberculatâ, alis columnæ acinaciformibus denticulatis.

Epidendrum tetrapetalum. *Jacq. Amer.* 230. *t.* 142.
Cymb. tetrapetalum. *Swartz. Nov. Act. Ups.* 6. 74.
O. quadripetalum. *Ib. Act. Holm.* 1800, *p.* 240.

Hab. in *Jamaica, Mac Fadgen.* (*v. s. sp. in herb. Banks.; et exam. in herb. Hooker.*)

Folia radicalia 4-5-poll. Scapus bipedalis. Tota planta quandòque triplò minor.

7. Oncidium variegatum. *Swartz. Act. Holm.* 1800. p. 240.

O. foliis oblongis acutis complicatis falcatis margine cartilagineo-serrulatis, scapo multifloro simplici v. paniculato, sepalis obtusis: lateralibus in unum cucullatum integrum connatis, petalis obtusis sublobatis, labelli lobis lateralibus ovatis obtusis recurvis intermedio reniformi undulato bilobo minoribus, cristâ trilamellatâ, columnæ alis acinaciformibus integris.

Viscum delphinii flore albo guttato, minus, radice fibrosâ. *Sloan. Jam. p.* 251. *t.* 148. *f.* 2.
Epidendrum variegatum. *Swartz.! Prodr.* 122.
Cymbidium variegatum. *Ib. N. Act. Ups.* 6. 74.
O. variegatum. *Willd. Sp. Pl.* 4. 113.

Hab. supra arbores (præsertim Crescentiam) in montosis *Hispaniolæ, Swartz.* (*hab. s. sp. comm. cel. Mackenzie.*)

Swartz has well observed that this is distinguished from *Oncidium tetrapetalum* by its broader serrulated leaves, and its acuminate not obtuse sepals. For fine specimens gathered in Saint Domingo I am indebted to Charles Mackenzie, Esq.

Like many other species it varies remarkably in stature; the specimens in the Banksian Herbarium from Swartz are not half the size of mine.

8. Oncidium cornigerum. *Lindl. in Bot. Reg. t.* 1542.

O. pseudo-bulbis oblongis sulcatis monophyllis, foliis ovalibus acutis sessilibus striatis scapo simplici decumbente paucifloro brevioribus, sepalo supremo petalisque obovatis concavis undulatis obtusis: inferioribus minoribus angustioribus basi connatis, labelli lobis lateralibus linearibus cornutis intermedio obovato subrepando undulato, cristâ anticè verrucosâ truncatâ posticè lamellâ crenatâ transversâ cornutâ, columnæ alis linearibus obtusis porrectis.

Hab. in *Brasilia, Herbert.*

Folia 2-3 poll. longa, patentissima. Scapus debilis, 5 poll. longus. Anthera membranacea, truncata ; clinandrio valdè proclivi.

9. Oncidium pubes. *Lindl. in Bot. Reg. t.* 1007.

O. pseudobulbis subcylindricis 1-phyllis, foliis lanceolatis subcostatis, paniculâ simplici multiflorâ subsecundâ, sepalis obovatis obtusissimis fasciatis : anteriore bidentato, labello pandurato cuneato utrinque bicornuto, cristâ duplici : posteriore depressâ transversim rugosâ anticè bicorni : anteriore cordatâ, (anticè obsoletè 3-dentatâ dente medio submembranaceo fornicato : lobo lineari canaliculato utrinque è regione cristæ anterioris dependente), columnæ alis linearibus truncatis, stigmate rostelloque pubescentibus.

O. bicornutum. *Hooker in Bot. Mag. t.* 3109.

Hab. in *Brasilia,* prope *Rio Janeiro, Douglas. (v. v. c.)*

Sepala et petala virentia, rubro-fasciata. Labellum pallidum, sanguineo marginatum.

10. Oncidium flexuosum. *Sims in Bot. Mag. t.* 2203.

O. pseudobulbis ovalibus compressis 2-phyllis, foliis oblongo-lanceolatis, striatis, paniculâ ramosissimâ multiflorâ : ramis ascendentibus, sepalis oblongis obtusis, petalis obovatis undulatis, labelli laciniâ mediâ transversâ rotundatâ subquadrilobâ basi truncatâ lateralibus auriculæformibus, cristâ posticè pulvinatâ anticè in lobos 3 laceros divisâ utrinque tuberculatâ, columnæ alis rotundatis.

Hab. in *Brasilia. (hab. s. cult. comm. illustr. Cometiss. Amherst.)*

Flores lutei, nitidissimi.

* * Labelli laciniæ laterales intermediæ longitudine æquales.

11. Oncidium fimbriatum.

O. pseudobulbis ......, foliis ......, scapo ......, sepalo supremo obovato fornicato inferiore 2 partito acuminato labello subæquali, petalis obovatis undulatis sinuatis, labelli laciniâ intermediâ subrotundâ apiculatâ lateralibus linearibus ascendentibus, cristâ tuberculis fimbriatâ posticè cuneatâ truncatâ anticè divergentibilobâ, columnæ alis ovatis apice corrugatis, clinandrio fimbriato.

Hab. in *Brasilia, Hort. Reg. Kew. (v. ic. Bauer.)*

Flores lutei ; sepala et petala sanguineo maculata ; labellum unicolor. Crista posticè ochracea, anticè sanguinea.

* * Labelli laciniæ laterales intermediæ æquales.

12. Oncidium ciliatum.

O. pseudobulbis ovatis compressis monophyllis, foliis complicatis lineari-oblongis obtusis scapo erecto flexuoso apice paucifloro pluries brevioribus, sepalis undulatis lineari-oblongis obtusis: anteriore bilobo, petalis obovatis crispis, labello æqualiter tripartito sepalis breviore: laciniis obovatis sinubus suis latissimis fimbriatis, cristâ 5-corni cornubus posticis divergentibus anticis collateralibus tuberculis quibusdam interjectis, columnæ alis ovatis acutis.

Hab. in *Brasilia, Hort. Reg. Kew.* (*v. ic. Bauer.*)

Folia 2-3 poll. longa. Scapus debilis, subpedalis, sanguineo punctatus. Flores lutei, sanguineo maculati. Labelli laciniæ unicolores.

*** Labelli laciniæ laterales intermediâ majores.

13. Oncidium barbatum. *Lindl. Coll. Bot. t.* 27.

O. pseudobulbis oblongis compressis monophyllis, foliis lineari-oblongis coriaceis obtusis emarginatis, scapo flexuoso paniculato, sepalis lanceolatis undulatis acutis: duobus inferioribus basi connatis divergentibus, petalis conformibus obtusis, labello transverso sepalis breviore: lobis lateralibus obovatis intermedio minimo bilobo; disco barbato, cristâ depressâ trilobâ lobo medio tricrenato, alis columnæ brevibus rotundatis.

Hab. in *Brazilia, Swainson.* (*v. v. c.*)

Sepala et petala fusca punctata. Labellum flavum disco sanguineo-maculato. Columna lutea fuscopurpureo variegata. Scapus gracilis 2-pedalis.

b. *Sepala lateralia libera.*

* Labelli laciniæ laterales nanæ, v. obliteratæ.

14. Oncidium altissimum. *Swartz. Act. Holm.* 1800, *p.* 240.

O. pseudobulbis oblongis compressis, foliis ensiformibus rigidis carinatis carnosis scapo (6-pedali) erecto ramoso multò brevioribus, sepalis petalisque labelli longitudine lineari-lanceolatis undulatis, labello cordato utrinque introrsùm arcuato apice dilatato subreniformi emarginato, cristâ enneadactylâ, columnæ alis abbreviatis.

α. Alis columnæ rotundatis.

Epidendrum altissimum. *Jacq. Amer.* 229, *t.* 141.
O. altissimum. *Swartz. Fl. Ind. Occ.* 1481. *Willd. Sp. Pl.* 4, 112. *Hooker in Bot. Mag.* 2990.

β. Alis columnæ truncatis.

O. Baueri. *Illustr. of Gen. & Sp. of Orchideous Plants, t.* 7. *Genera.*
Epidendrum Gigas. *Richard in Herb. Vahl.*

Hab. in *Panama et Columbia* occidentali, *Cuming,* No. 1247; in *Jamaica* alibique in *India occidentali* in truncos arborum, Swartz; ad *Porto Rico, West* in herb. Vahl; *Cayenna, Richard.* (*hab. s. sp. et v. v. c.*)

Flores flavescentes fusco marginati et guttati. Labellum luteum fasciâ latâ lateritiâ. Huc procul dubio Epid. Gigas *Richard in herb. Vahl.* cui "Bulbi bifolii oblongi compressi pollicares, scapus radicalis 9-pedalis, et folia ensiformia 9-pedalia" tribuuntur.

Obs. Crista labelli in icone Hookeriana polydactyla, et flores vix maculati; an rectè?

15. Oncidium pictum. *Humb. et Kunth. N. G. et. Sp. Pl.* 1, 346. t. 81.

O. pseudobulbo ovato-oblongo, foliis latè linearibus coriaceis, scapo paniculato multifloro, sepalis lineari-lanceolatis unguiculatis petalisque obtusis undulatis, labelli lobis lateralibus rotundatis nanis intermedio transverso retuso undulato, cristâ 7-8-tuberculatâ, columnæ alis subulatis ascendentibus

Hab. in temperatis Provinciæ *Popayanensis* inter villam el Naranjo et pagum Roldanilla alt. 540 hexap. florens Octobri, Humb. et Bonpl.

This differs from O. altissimum in its leaves being narrower, its scape much shorter, the wings of the column subulate, and the spots of the flower red, not brown. *Kunth.*

16. Oncidium funereum. *Llave et Lexars. st. nov.* 2, 37.

O. foliis ensiformibus acutis, scapo stricto paniculato multifloro, sepalis petalisque lanceolatis undulatis: inferioribus subfalcatis longioribus, labelli lobis lateralibus rotundatis integerrimis nanis: intermedio subrotundo sessili apice et utrinque versus basin emarginato, cristâ tuberculatâ, columnæ clavatæ alis abbreviatis integerrimis semisagittatis.

Hab. in *Mexico, Pavon*; præcipuè juxta Irapæum et Jesus del Monte, florens Novembri, Llave. (*exam. s. sp. in Herb. Lambert.*)

Michuacanenses accolæ veluti ornamenta sepulchralia flores hujus adhibent. Pseudobulbi lenticulares, subrotundi, depressi, diphylli. *Llave.* Scapus longissimus. Flores magnitudine O. Carthaginensis.

17. Oncidium Carthaginense. *Swartz. Act. Holm.* 1800, *p.* 240.

O. foliis oblongis acutis rigidis carnosis, scapo paniculato multifloro, sepalis undulatis: supremo unguiculato obtuso cochleato reflexo lateralibus lanceolatis acutis patentibus, petalis obtusis undulatis lobatis, labelli lobis lateralibus acutis recurvis intermedio subrotundo-reniformi emarginato majore, cristâ trilobâ carnosâ lobis tuberculatis intermedio acuto elongato, columnæ alis carnosis obliquis rotundatis repandis.

Epidendrum Carthaginense. *Jacq. Amer.* 228, *t.* 133. *f.* 4.
O. Carthaginense. *Willd. Sp. Pl.* 4, 112.
Epidendrum undulatum. *Bot. Mag. t.* 777 *mala.*

Hab. in *Carthagenæ* sylvis densis, Jacquin. (*v. v. c.*)

Flores olivacei, maculati, labello basi luteo sanguineoque variegato. Glandula polliniorum maxima, posticè membranaceo-biaurita; caudiculâ nullâ. Crista labelli omninò ranam refert.

18. Oncidium luridum. *Lindl. in Bot. Reg.* 727.

O. foliis oblongis acutis rigidis carnosis, scapo paniculato multifloro, sepalis petalisque undulatis obovatis; superioribus obtusis, inferioribus acutis, labelli lobis lateralibus nanis obtusis intermedio undulato transverso emarginato, cristâ tuberculis 2 ad basin 2 majoribus intermediis callisque tribus cruciatis à fronte, columnæ alis unguiculatis rotundatis brevibus.

? Epidendrum guttatum. *Linn. Sp. Pl.* 1351.
? Cymbidium guttatum. *Willd. Sp. Pl.* 4, 102.
? Oncidium cuneatum. *Lindl. Coll. Bot. p.* 27.

Hab. in *Jamaica, Waters*; etiam in insula *Trinitatis.* (*v. v. c. et s. sp. in herb. Hooker.*)

This although very nearly related to O. Carthaginense, is undoubtedly distinct. Its petals and upper sepal are very obtuse and nearly alike in

form, the former are not lobed, the side lobes of the labellum are much smaller, and the tubercles of the crest are quite different. The gland of this, although very like that of O. Carthaginense, has the membranous auricles larger. I presume the very obscure *Cymbid. guttatum* must be this plant.

19. Oncidium olivaceum. *Humb. et Kunth. N. G. et Sp.* 1. 347.

O. " bulbo ovato-oblongo, foliis oblongo-lanceolatis, pedunculo simplici multifloro, foliolis calycis carnosis reflexis, labello trifido : laciniâ intermediâ subreniformi emarginatâ, gynostemio basi alis rotundatis instructo apice cucullato."

Hab. in crepidinibus montis ignivomi *Puracé*, prope urbem Popayan, alt. 1754 hex. florens Octobri. Humb. et Bonpl.

Folia 3-4-pollicaria Scapus 1-2-pedalis. Sepala lanceolata, acuminata, 9-10 lin. longa. Petala oblonga, acuta, sepalis breviora. Labellum maximum ; laciniâ intermediâ crenulatâ, planâ, roseâ, poll. latâ, ½-p. longâ, basi angustatâ, tuberculo conico flavo cristatâ ; lateralibus obliquè ovatis, undulatis, distantibus, rubro-maculatis, 4-5 lin. longis. *Ex Kunth.*

20. Oncidium ampliatum. *Lindl. in Bot. Miscell. n. s. ined.*

O. sepalis omnibus liberis, labello bilobo subrotundo transverso : lobis lateralibus brevissimis, callo baseos 3-lobo : lobis lateralibus teretibus intermedio compresso, alis columnæ 3 cuneatis dentatis lateralibus reflexis, pseudobulbis subrotundis compressis, foliis planis oblongo-lanceolatis, scapo erecto apice ramoso.

Hab. in *Panama*, et *Columbia* occidentali, *Cuming* ; no. 1312. (*hab. s. sp.*)

21. Oncidium Harrisonianum. *Lindl. in Bot. Reg.* 1569.

O. pseudobulbis subglobosis monophyllis, foliis carnosis lineari-oblongis acutis recurvis, paniculâ ramosâ multiflorâ, sepalis petalisque linearibus obtusissimis, labelli laciniis lateralibus minutis auriculæformibus intermediâ unguiculatâ transversâ emarginatâ, cristâ 5-lobâ centro pubescente, columnæ alis deltoideis rectiusculis.

Hab. in *Brasilia*, in montibus Organ, *Gul. Harrison.* (*v. v. c.*)

22. Oncidium globuliferum. *Humb. et Kunth. N. G. et Sp.* 1. 347.

O. " bulbo subgloboso, foliis oblongis brevissimè mucronatis, scapis simplicibus subunifloris, foliolis calycis subæqualibus crenulato-undulatis, labello subreniformi apice emarginato-bilobo, gynostemio apice alâ crenulatâ cincto ?"

Hab. supra arbores in declivitate Andium *Popayanensium* in convalli fluvii Putes et juxta pagum Timbio, alt. 730 hex. florens Octobri. Humb. et Bonpl.

Folia sesquipoll. 7-8 lin. lata. Scapi sesquipoll. Bracteæ plures, imbricatæ, acuminatæ. Flores rubro-maculati. Sepala et petala obtusa. Labellum maximum, basin versus angustatum, laciniis lateralibus minimis rotundatis. Ex *Kunth.*

23. Oncidium iridifolium. *Humb. et Kunth. N. Gen. et Sp. Pl.* 1. 344.

O. foliis ensiformibus brevibus equitantibus, scapo simplici subunifloro, sepalo supremo obtuso : lateralibus acutis collateralibus, petalis obtusis undulatis majoribus, labelli lobis lateralibus parvis subrotundis ungui-

culatis: intermedio multò majore subrotundo bilobo utrinque versus apicem emarginato, cristâ...., columnæ alâ crenulatâ circumdante.

Epidendrum pusillum. *Linn. Sp. Pl.* 1352.
Cymbidium pusillum. *Swartz. Nov. Act. Ups.* 6. 74. *Willd. Sp. Pl.* 4. 104.

Hab. in *Americâ æquinoctiali*; *Mexico, Pavon*; *Surinam,* Dahlberg; *Nov. Grenada,* Humb. et Bonpl. (*v. v. sp. in Herb. Lambert.*)

Flores flavi, sub-maculati. Statura 2-3-pollicaris.

24. Oncidium Papilio. *Lindl. in Bot. Reg. t.* 910.

O. pseudobulbis subrotundis compressis rugosis monophyllis, foliis oblongis coriaceis obtusis maculatis, scapo perennante debili ancipiti articulato apice paucifloro, sepalo supremo petalisque linearibus longissimis basi angustatis, sepalis lateralibus oblongis revolutis undulatis labello longioribus, labelli laciniâ intermediâ emarginatâ subrotundâ crispâ basi valdè angustatâ lateralibus rotundatis, cristæ glandulis formam ranæ cubantis referentibus, columnæ alis serratis.

O. Papilio. *Hooker in Bot. Mag.* 2795. *Loddiges Bot. Cab. t.* 1086.

Hab. in insula *Trinitatis.* (*v. v. c.*)

25. Oncidium tigrinum. *Llave Orch. Mex.* 2. 36.

O. "bulbis ovatis ancipitibus; foliis lanceolatis bulbo innatis; scapo tereti simplici; floribus laminâ labelli reniformi longè unguiculatâ."

Flor de Muertos *vernaculè.*

Hab. in *Mexici* montibus Irapæi prope *Vallisoletum,* florens Novembri; Llave.

Pseudobulbi 3-poll. et ultra, 2-3-phylli. Scapus teres, 2-pedalis, 3-5-florus. Flores odore violæ suavissimo, magni, speciosi, pellem tigrinam referentes. Sepala et petala lanceolato-ovata, lutescentia, maculis tigrinis castaneo-purpureis totâ superficie variegata. Labellum maximum, luteum, immaculatum, laminâ amplissimâ, carnosâ, reniformi aut bilobatâ, undulatâ. Columnæ alæ acuminatæ.

Variat 1°. scapo ramoso giganteo multifloro, et 2°. scapo attenuato elato, floribus gracillimis prope Paracho. *Llave.*

* * Labelli laciniæ laterales intermediæ longitudine æquales,

26. Oncidium onustum. *Lindl. in Bot. Miscell. n. s. ined.*

O. sepalis omnibus liberis, labello bilobo transverso: lobis lateralibus linearibus apice subdilatatis, callo baseos oblongo cochleato anticè appendiculâ tuberculiformi instructo, alis columnæ 2 integerrimis, foliis linearibus complicatis falcatis, scapo simplici, racemis cernuis secundis multifloris,

Hab. in *Panama* et *Columbia* occidentali; *Cuming,* no. 1208. (*hab. s. sp.*)

27. Oncidium panduriferum. *Humb. et Kunth. N. G. et Sp.* 1. 346. *t.* 82.

O. "foliis lanceolatis, pedunculo paniculato multifloro, calycis foliolis subæqualibus undulatis unguiculatis, labello panduriformi apice emarginato, gynostemio apice alâ quinquelobâ cincto."

Hab. in convallibus *Regni Novogranatensis,* sub cœlo mitiori, ad radices Parami Pitatumbæ, juxta pagum Pongo, inter urbes Almaguer et Pasto, alt. 1370 hex. florens Novembri. Humb. et Bonpl.

Folia 7-8-poll. longa, sesquipoll. vix lata. Scapus sub 4-pedalis. Flores exsiccati aurantiaci. Sepala et petala subrotundo-ovata obtusa. Labellum laciniis lateralibus intermediæ subtruncatæ subæqualibus, sinubus interjectis valdè apertis; tuberculis 4 cristatum. Columna cucullata margine petaloideo utrinque bilobo, inde, cucullo numerato, "alâ 5-lobâ cincta." *Ex Kunth.*

28. ONCIDIUM echinatum. *Humb. et Kunth. N. G. et Sp.* 1. 345. *t.* 79.

O. "bulbo oblongo; foliis oblongo-lanceolatis, pedunculo paniculato multifloro; labello trifido basi bialato, gynostemio alato rostrato, rostro elongato adscendente; capsulâ glandulosâ echinatâ.

Hab. ad litora *Mexicana,* occidenti soli opposita, prope Acapulco, regione ferventissimâ, florens Aprili. Humb. et Bonpl.

Pseudobulbus oblongus, subpollicaris. Folia sesqui-aut bipollicaria. Scapus pedalis. Sepala et petala lanceolata, acuminata, patentia, subæqualia. Labelli laciniæ laterales rotundatæ, intermediæ ovatæ obtusæ unguiculatæ ferè æquales. Alæ duæ, lineares, ad basin laciniæ internè labelli. Columna brevissima, longissimè rostrata, alis lineari-lanceolatis divaricatis. *Ex Kunth.*

29. ONCIDIUM ornithorhynchum. *Humb. et Kunth. N. G. et Sp.* 1. 345. *t.* 80.

O. "bulbo oblongo, foliis lanceolatis, pedunculo paniculato multifloro, labello subpanduriformi apice emarginato, gynostemio alis duabus cuneatis erectis coronato longè rostrato: rostro recto."

Hab. in temperatis regni *Mexicani* prope el Puerto de Andaracuas, inter urbes Guanaxuato et Valladolid de Mechoacan, alt. 1010 hex. florens Septembri. Humb. et Bonpl.

Pseudobulbus oblongus, glaber, sesquipollicaris. Folia lanceolata, acuta, striato-nervosa, vix coriacea, 4-5-poll. longa, 7-lin. lata. Sepala subæqualia, spatulata, apice rotundata. Petala oblonga, obtusa. Labellum angustum, laciniâ mediâ contractâ, et ideò lac. laterales, quæ alioqui nanæ essent, ei ferè æquales. Crista, ex icone, 5-loba. Alæ columnæ denticulatæ. *Ex Kunth.*

30 ? ONCIDIUM hyalinobulbum. *Llave Orch. Mex.* 2. 38.

O. "bulbis lenticularibus subhyalinis; foliis lineari-lanceolatis; scapo filiformi flexuoso; floribus insectiformibus resupinatis; laminâ labelli lanceolatâ; gynostemio cuneiformi longè rostrato."

Hab. in *Mexico,* supra arbores ad Acuitzium, florens vere. Llave.

Planta exigua. Pseudobulbi punctati, diphylli. Scapus pauciflorus. Sepala et petala lanceolata subæqualia. Labellum carnosum, 3-partitum, basi tribus auriculis tuberculosis prominentibus: lobulis lateralibus cuneatis subrotundis, intermedio ovato acuminato pendulo. *Llave.*

Vix hujus generis.

31. ONCIDIUM serpens. *Lindl. in Bot. Misc. ined.*

O. caule repente tortuoso filiformi ad nodos radicante pseudobulbifero, foliis oblongo-lanceolatis acutis pedunculis bifloris brevioribus, sepalis petalisque obovatis obtusis planis æqualibus, labello oblongo obtuso medio constricto basi bilamellato, columnâ marginatâ apice membranaceâ cucullatâ.

Hab. supra arbores ad Patacocha in via Esmeraldas ducente, alt. 1000 hexap. *Hall. (v. s. sp. in herb. Hooker.)*

Caulis pennâ corvinâ minor. Folia 2-poll. longa, $\frac{1}{2}$-p. lata, inferiora extra pseudobulbos minora, vaginis latis striatis. Flores lutei, castaneo maculati, ferè pollicem lati, facie Macradeniæ luteæ. Clinandrium cucullatum: membranâ in margines columnæ decurrente. Alæ obsoletæ. Anthera et pollinia ignota.

* * * Labelli laciniæ laterales intermediâ majores.

32. Oncidium macranthum.

O. sepalis cordatis oblongis obtusis undulatis unguiculatis, petalis æqualibus conformibus paulò latioribus et breviùs unguiculatis, labelli hastati laciniis lateralibus subfalcatis intermediâ acuminatissimâ majoribus, cristâ basi hastatâ apice dentibus duabus runcinatis, columnæ alis rotundatis.

Hab. in *Guayaquil, Ruiz et Pavon. (exam. florem unicum s. in herb. Lambert.)*

Adest præterea folium oblongo-lanceolatum 2-costatum, pedale; sed nescio an flori verè pertineat. Floris diametrum 3-pollicare.

33. Oncidium divaricatum. *Lindl. in Bot. Reg. t.* 1050.

O, foliis oblongis obtusis apiculatis concavis coriaceis margine sæpè fissis, scapo paniculato divaricatissimo, sepalis petalisque obovatis obtusis æqualibus, labelli crenulati cordati lobis lateralibus rotundatis intermedio sub-cordato rotundato emarginato majoribus, cristâ pulvinatâ pubescente 4-lobâ, columnæ alis rotundatis integerrimis.

β. *cupreum*; perianthii foliolis angustioribus cupreis vix maculatis.

Hab. in *Brasilia*; ad Corcovado prope Rio de Janeiro, *Herb. Hooker. (v. v. c. et s. sp. in Herb. Hooker.)*

Pseudobulbi subrotundi, compressi, monophylli. Scapus 3-4-pedalis. Flores viridi-lutei, rubro maculati.

34. Oncidium pumilum. *Lindl. in Bot. Reg. t.* 920. *Bot. Cab.* 1732.

O. pseudobulbis nullis, foliis rigidis ovalibus obliquis, paniculâ erectâ thyrsoideâ foliorum longitudine, sepalis petalisque obovatis incurvis, labello subrotundo trilobo: lobis ovatis obtusis: intermedio paulò minore: disco callis duobus longitudinalibus sinubus loborum oppositis cristato, alis columnæ integerrimis.

β. alis columnæ cuneiformibus truncatis, cristâ labelli obsoletâ, foliis atroviridibus vix maculatis, staturâ majore.

Hab. in *Brasilia*; *Harrison, Douglas. (v. v. c.)*

§. 2. Folia triquetra, v. teretia.

35. Oncidium triquetrum. *R. Brown in Hort. Kew. ed.* 2. 5. 216.

O. "petalis acutis: anticis connatis, labelli lobo medio subrotundo indiviso, scapo racemoso, foliis triquetris." *R. Br.*

Epidendrum triquetrum. *Swartz. Prodr.* 122.
Cymbidium triquetrum. *Swartz. Nov. Act. Ups.* 6. 74. *Willd. Sp. Pl.* 4. 104.

Hab. in *Jamaica, Swartz. (v. s. sp. in herb. Banks.)*

Folia triquetra, cultrata, apice compressa, lanceolata, acuta. *Sw.*——Sca-

pus simplex, 5-florus. Sepalum supremum erectum, lanceolatum, unguiculatum, acuminatum. Petala majora, ovata, acuta, medio colorata. Labellum sæpe posticum, ovato-cordatum, ecristatum !, utrinque emarginatum, apiculatum. Columnæ alæ obliquæ, rotundatæ, planæ.

36. Oncidium pulchellum. *Hooker in Bot. Mag. t.* 2773.

O. foliis acutè triquetris carinatis subfalcatis integris, scapo simplici apice racemum subsimplicem cernuum gerente, sepalis cymbiformibus acuminatis lateralibus connatis, petalis obovatis rotundatis planis, labelli lobis lateralibus rotundatis intermedio subrotundo sessili retuso subæqualibus, cristâ trilobâ anticè 1-callosâ, alis columnæ acinaciformibus denticulatis.

Hab. in *Jamaica, Mac Fadgen; Demerara, Parker.* (*hab. s. sp. comm. cel. Hooker.*)

This very remarkable species has the habit of *O. variegatum*, and *tetrapetalum*, from both which it is readily distinguished by the large lateral lobes of its labellum, and the cymbiform upper sepal. Its crest is also essentially different, consisting of three narrow nearly equal collateral elevati calli, in front of which is placed a short tubercle.

Its flowers are pure white with a little orange about the crest of the lip. The column is pink.

37. Oncidium Cebolleta. *Swartz. Act. Holm.* 1800. *p.* 240.

O. foliis radicalibus teretibus subulatis, scapo stricto paucifloro, sepalis petalisque lanceolatis unguiculatis, labelli laciniis lateralibus abbreviatis erectis intermediâ unguiculatâ reniformi emarginatâ, columnæ alis retrorsùm falcatis rotundatis integris.

Helleborine maculosa, foliis junceis et sulcatis. *Plum. Sp.* 9. *ic.* 184. *f.* 2.
Epidendrum Cebolleta. *Jacq. Amer.* 230. *t.* 131. *f.* 2.
Oncidium Cebolleta. *Willd. Sp. Pl.* 4. 113.
Epidendrum juncifolium. *Linn. Sp. Pl.* 1351.
Cymbidium juncifolium. *Willd. Sp. Pl.* 4. 102.
Oncidium juncifolium. *Lindl. Coll. Bot. p.* 27.

Hab. in *India occidentali*, insula *Sæ. Luciæ, Herb. Banks*; *Carthagenæ* sylvis, Jacquin. (*v. s. sp. in herb. Banks.*)

Pseudobulbi nulli. Folia 9-12 uncias longa, subulata, teretia, basi membranaceo-vaginata. Scapus erectus, pauciflorus, angulatus, glaber. Perianthii laciniæ subæquales, patentes, tessellatæ, lanceolatæ, acutæ, undulatæ. Labellum 3-lobum: lobis lateralibus brevibus, oblongis, obtusis, erectis; medio unguiculato, maximo, plano, subrotundo-reniformi, emarginato; cristâ .... Alæ columnæ magnæ, retrorsùm falcatæ, rotundatæ, integræ.

B. *Labellum integerrimum.*

38. ? Oncidium emarginatum. *Meyer Fl. Esseq.* 259.

O. "foliis lanceolato-linearibus obtusis emarginatis, floribus terminalibus, labello obovato integerrimo, gynostemii alis ovato-subrotundis." *Meyer.*

Hab. in *Essequebo, Meyer.*

Caules spithamæi, sulcati. Folia 2-2½-poll. longa, integerrima. Flores parvi, purpurei, punctis argenteis notati. Per. foliola 3 ext. oblongo-lanceolata, acuminata, inferiora 2 paululùm breviora, oblonga, acuta.

Labellum obovatum, basi attenuatum, integerrimum, planum, supra tuberculis rugæformibus notatum. Gynostemium breve, apice alis 2, parvis, patenti-erectis, rotundatis instructum. *Meyer l. c.*

CXXVI. FERNANDEZIA.

Fernandezia. *Fl. Peruv. Syst.* 239. Lockhartia. *Hooker. Bot. Mag.* 2715.

Perianthium patens. Sepala libera. Petala conformia, sub sepalo supremo conniventia. Labellum anticum v. posticum, ecalcaratum, liberum, trilobum, disco tuberculatum. Columna brevis, utrinque aurita. Anthera bilocularis. Pollinia 2, solida, obovata, glandulâ .... caudiculâ ...?..——Epiphytæ caulescentes. Folia disticha, equitantia, imbricata. Racemi pauciflori, terminales v. laterales. Flores parvi lutei.

This genus, as understood by the authors of the Flora Peruviana, certainly comprehended species not only of Pachyphyllum and Dichæa, but also of Isochilus. Several of the species here introduced from the Systema Floræ Peruvianæ, are therefore doubtful, and are most likely repeated elsewhere; for this reason I have not numbered them.

1. Fernandezia elegans. *Lodd. Bot. Cab. t.* 1214.

F. foliis obtusis ovatis carinatis, floribus paniculatis, bracteis obtusis membranaceis, labelli hastati lobis lateralibus acutis intermedio oblongo obtuso, disci tuberculis anticis minimis aggregatis: posticis maximis coloratis.

Lockhartia elegans. *Hooker. in Bot. Mag. t.* 2715.

Hab. in insula *Trinitatis, Ryan* in herb. Vahl. (*v. s. sp. sine floribus.*)

2. Fernandezia denticulata. *Fl. Per. Prodr. p.* 240.

F. "foliis oblongis acuminatis carinatis denticulatis, caule nutante, pedunculis 3-5-floris."

Hab. in *Pillao* supra arbores et saxa. R. et P.

3. Fernandezia subbiflora. *Fl. Per. Prodr.* 240.

F. "foliis ensiformibus carinatis, caulibus virgatis, pedunculis subbifloris."

Hab. in *Muña* supra arbores et saxa. R. et P.

Species omninò dubiæ; in Systemate Vegetabilium Floræ Peruvianæ *admissæ, sed verosimiliter sub* Pachyphyllo, Dichæa, aliisque *iteratæ.*

Fern. punctata.

F. "foliis linearibus inæqualiter emarginatis, ramis dichotomis, floribus axillaribus, nectarii labio prominentiâ notato." p. 239.——In *Muña*, supra arbores et saxa.

Fern. laxa.

F. "foliis lanceolatis acuminatis contortis, caule laxo, nectarii labio utrinque denticulo recurvo." p. 240.——Cum præcedente.

Fern. hæmatodes.

F. "foliis ovato-lanceolatis margine scabris, caulibus erectis, floribus ternis, petalis interioribus brevioribus." p. 241. ——Cum præcedente.

Fern. graminifolia.

F. "foliis linearibus emarginatis, caule radicante, ramis furcatis, floribus è furcaturâ sessilibus." p. 241.——In nemoribus *Pillao,* ad Chacahuassi tractus.

Fern. conferta.

F. "foliis linearibus integerrimis reflexis, caule radicante, ramis confertis, floribus axillaribus solitariis." p. 241.——Cum præcedentibus.

CXXVII. PACHYPHYLLUM.

Pachyphyllum. *Humb. et Kunth. N. G. et Sp.* 1. 339. Fernandezia. *Fl. Per. Prodr. t.* 27. *f.* 2. 3. 4.

Perianthium connivens. Sepala et petala libera, æqualia, acuta. Labellum liberum, indivisum, sessile, basi unituberculatum, apice bituberculatum. Columna petaloidea. Pollinia 2.——Herba epiphyta, caulescens, foliis distichis, spicis axillaribus recurvis bifariàm imbricatis. Flores inconspicui.

1. Pachyphyllum distichum. *Humb. et Kunth. N. G. et Sp.* 1. 339. *t.* 77. *Synops.* 1. 328.

Hab. in arboribus *Peruviæ,* prope Loxam et Gonzanam, alt. 1070 hexap. Humb. et Bonpl.

Flores virides, ex axillis distichè spicati, bracteis bifariis more Palmarum.

CXXVIII. DICHÆA.

Dichæa, *Lindl. in Hooker. Bot. Miscell. ined.* Fernandezia. *Fl. Per. Prodr. t.* 27. *f.* 1.

Perianthium connivens. Sepala et petala libera, acuta, æqualia. Labellum unguiculatum, nudum, ecalcaratum, deltoideum, cum columnâ articulatum. Columna erecta, teres, aptera. Anthera bilocularis. Pollinia 4, geminata, collateralia (oo oo) caudiculâ cuneatâ, glandulâ minutâ.——Epiphytæ, caulescentes, repentes. Folia parva, disticha. Flores solitarii, axillares, minuti.

1. Dichæa echinocarpa.

D. caule pendulo, foliis ovatis acutis, labello pubescente sagittato, capsulâ subrotundâ echinatâ.

Epidendrum echinocarpon. *Swartz. Prodr.* 124.
Cymbidium echinocarpon. *Swartz.! Fl. Ind. Occ.* 1452.
Limodorum pendulum. *Aubl. Guian. t.* 322.

Hab. in *Guiana,* Aublet; ad latera saxorum arborumque inter muscos, in umbrosis montium *Jamaicæ australis, Swartz*; in *Mexico,* dom. *Graham.* (*hab. s. sp.*)

2. Dichæa latifolia.

D. caule pendulo, foliis oblongis obtusis apiculatis, capsulis longè pedunculatis angustis oblongis echinato-villosis.

Hab. in insula *St. Vincentii, Guilding.* (*v. s. sp. in herb. Hooker.*)

D. echinocarpæ valdè affinis; foliis latioribus obtusissimis, et fructus superficie satis diversa.

3. Dichæa muricata.

D. foliis ovato-oblongis acuminatis, labello ...., capsulâ muricatâ.

Cymbidium muricatum. *Swartz.! Fl. Ind. Occ.* 1454.

Hab. in truncis muscosis arborum, versus juga montium *Jamaicæ australis, Swartz. (v. s. sp. in herb. Hooker. ex Dom. Bancroft.)*

Mera videtur varietas *D. echinocarpæ.* Folia latiora; flores majores, gibbosiores, glabræ, sec. Swartz. icon.

Verosimiliter adest etiam in *Brasilia.*

4. Dichæa trichocarpa.

D. foliis linearibus subreflexis, labello subrotundo concavo, capsulâ subrotundâ albo-hirsutâ.

Epidendrum trichocarpon. *Swartz. Prodr.* 124.
Cymbidium trichocarpon. *Swartz.! Fl. Ind. Occ.* 1455.

Hab. in truncis muscosis arborum, versus juga montium *Jamaicæ australis, Swartz. (v. s. sp. defl. in herb. Vahl.)*

5. Dichæa graminoides.

D. caulibus erectis, foliis linearibus acutis, petalis sepalisque acutis, labello cuneato-sagittato, capsulâ glabrâ.

Epidendrum graminoides. *Swartz. Prodr.* 125.
Cymbidium graminoides. *Swartz.! Fl. Ind. Occ.* 1459.
Isochilus graminoides. *Hooker. Exot. Fl. t.* 196.

Hab. in arbores regionis temperatæ montium *Jamaicæ australioris, Swartz*; in *Guiana,* insula *Trinitatis* et *Demerara, Parker. (hab. s. sp. comm. clar. Hooker.)*

Variat longitudine foliorum.

6. Dichæa Panamensis. *Lindl. in Bot. Misc. ined.*

D. caule erecto, foliis glaucis linearibus acutis rectis, pedunculis capillaribus, labello ovato subsagittato, fructu glabro.

Hab. in *Panama,* et *Columbia occidentali, Cuming* no. 1292. *(hab. s. sp.)*

7. Dichæa glauca.

D. caule compresso erectiusculo, foliis lineari-oblongis acutis subtus glaucis, capsulis glabris.

Epid. glaucum. *Swartz. Prodr.* 124.
Cymbidium glaucum. *Swartz. Fl. Ind. Occ.* 1457.

Hab. in arboribus versus summum jugum montium cæruleorum *Jamaicæ australis,* Swartz. *(v. s. sp. defl. in herb. Hooker.)*

Maxima generis. Caulis 1-2-pedalis. Flores albidi, parvi.

CXXIX. PHYMATIDIUM.

Sepala et petala subæqualia, patentia, libera, membranacea. Labellum subunguiculatum, indivisum, basi callosum. Columna libera, alato-marginata, basi tumida. Anthera ....——Herbæ pusillæ, acaules, ebulbes. Folia gracilia, racemis breviora. Flores distichi racemosi.

1. Phymatidium delicatulum.

P. foliis brevibus lineari-subulatis, bracteis distichis acerosis, petalis sepalisque acutis, labello rhomboideo acuto.

Hab. in insula *Sæ. Catharinæ, Brasilia, Fischer.* (*hab s. sp.*)

2. Phymatidium falcifolium.

P. foliis longis subulatis falciformibus, bracteis membranaceis, petalis obtusissimis, labello suborbiculari basi undulato.

Hab. in *Brasilia, Prescott.* (*hab. s. sp.*)

CYRTOCHILUM.

Cyrtochilum. *Humb. et Kunth. Nov. Gen. et Sp.* 1. 335.

Perianthium explanatum. Sepala libera, lateralia unguiculata. Petala paulò minora. Labellum ecalcaratum, indivisum, ungue tuberculato cum basi columnæ continuo. Columna brevis, alata. Anthera bilocularis. Pollinia 2, caudiculâ filiformi, glandulâ minutâ.——Herbæ epiphytæ, v. terrestres, pseudobulbosæ. Folia coriacea. Scapi radicales, paniculati. Flores speciosi.

1. Cyrtochilum undulatum. *Humb. et Kunth. N. G. et Sp.* 1. 349. *t.* 84. *Synops.* 1. 335.

C. " foliolis calycinis ovatis, undulatis, patentibus."

Hab. locis rupestribus *Andium Novogranatensium* aëre temperato utentibus, prope pagum La Ascension et Paramo de los Papas, alt. 1045 hexap. Humb. et Bonpl.

Folia lanceolato-oblonga, 11-13-nervia, subpedalia. Scapus orgyalis, apice ramosissimus, paniculatus. Flores fuscescentes, albo flavoque maculati. Labellum ovato-lanceolatum, convexum, basi tuberculis numerosis cristatum, sepalis triplò brevius, exterius roseum, interius flavum, maculis rubris et albis variegatum. Kunth.

2. Cyrtochilum flexuosum. *Humb et Kunth. N. G. et Sp. Pl.* 1. 350. *Synops.* 1. 336.

C. " foliolis calycinis undulatis, reflexis, exterioribus spathulatis, interioribus obovatis."

Hab. in radicibus altissimi montis, Paramo de las Achupallas, inter urbem Almaguer et pagum La Cruz alt. 1580 hexap. Humb. et Bonpl.

Pseudobulbi oblongi, 3-pollicares. Folia oblongo-lanceolata, acuminata, basi valdè angustata, coriacea, 11-13-nervia, pedalia et longiora, 2-poll. lata. Scapus plurium pedum altitudine, ramosissimus, ramis triangularibus. Sepala spatulata, undulata; petala obovata breviora. Labellum ovatum acutum, convexum, basi tuberculato-cristatum, sepalis triplò brevius. *Kunth.*

3. Cyrtochilum pardinum. *Lindl. in Hooker. Bot. Miscell. ined.*

C. foliis lineari-oblongis basi angustatis striatis, petalis undulatis sepalisque angustioribus lanceolatis, labello unguiculato ovato-lanceolato: unguis axi cum columna connato utrinque lamellato; callis quibusdam elevatis inæqualibus linearibus productioribus e medio.

Hab. in *Peruvia*, in sylva inter Cumbe et Jima ad viam Loxæ, cùm epiphytum tùm terrestre; Novembri florens invenit *Jamieson*; etiam ad *Surucacho*. (*exam. s. sp. in herb. Hooker.*)

4. Cyrtochilum ixioides.

C. foliis membranaceis lineari-lanceolatis striatis, scapo simplici apice racemoso, labello oblongo obtuso basi bilamellato medio 5-tuberculato.

Hab. in regno *Novogranatensi* locis humidis *Paramo S. Fortunato, Gudot.* (*hab. s. sp.*)

Scapus $1\frac{1}{2}$ pedalis. Sepala ovata, unguiculata. Petala conformia sessilia. Flores verosimiliter lutei.

CXXXI. ODONTOGLOSSUM.

Odontoglossum. *Humb. et Kunth. Nov. Gen. et Sp.* 1. 351.

Perianthium explanatum, æquale; sepalis petalisque angustis acuminatis liberis. Labellum indivisum, ecalcaratum, unguiculatum; ungue cum basi columnæ continuo; laminâ patente basi cristatâ. Columna erecta, membranaceo-marginata, apice utrinque alata. Anthera bilocularis. Pollinia 2, solida, caudiculâ lineari, glandulâ hamatâ.—— Herbæ epiphytæ, pseudobulbiferæ. Folia plicata. Scapus terminalis, vaginatus. Flores speciosi. Character ex Kunthio.

1. Odontoglossum epidendroides. *Humb. et Kunth. N. G. et Sp. Pl.* 1. 351. *t.* 85.

O. pseudobulbis ovato-oblongis compressis, foliis lanceolatis subcoriaceis, scapo erecto multifloro, sepalis petalisque acuminatis undulatis, labello unguiculato oblongo obtuso undulato-crenato, basi trituberculato.

Hab. in regione subcalida Provinciæ *Bracamorensis*, inter flumen Amazonum et urbem Jaen, alt. 240 hexap. Humb. et Bonpl.

Scapus $1\frac{1}{2}$-pedalis. Flores lutei, inodori, maculati.

2. Odontoglossum cirrhosum. *Lindl. in Hooker. Bot. Misc. ined.*

O. sepalis lanceolatis petalisque latioribus undulatis acuminatissimis maculatis labello longioribus, labelli laminâ cordatâ acuminatissimâ, columnâ apice apterâ bicirrhosâ.

Hab. in *Guayaquil*; in valle Mindo alt. 1000 hexap. invenit *Hall.* (*exam s. sp. in herb. Hooker.*)

Flores verosimiliter flavi, maculis quibusdam magnis, et interveniis labelli, purpureis.

3. Odontoglossum maculatum. *Llave Orch. Mex.* 2. 35.

O. "bulbis ovatis subancipitibus monophyllis; foliis lanceolatis conduplicatis; scapo elongato depresso multifloro; floribus bicoloribus maculatis; lamina labelli integra cordata acuminata."

Hab. in *Mexico* supra arbores in montibus *Irapæi, Jesus del Monte* prope Vallisoletum. Llave.

Pseudobulbi ancipites, 1-phylli. Scapus simplex. Sepala lanceolata, castaneo-fusca, carinata, acutissima; petala majora, lurida, venosa, paulò breviora. Labellum basi carnosum, biauriculatum, dentibus 2 incurvis, laminâ cordatâ, acuminatâ, maculatâ. *Llave.*

4. Odontoglossum Cervantesii. *Llave. Orch. Mex.* 2. 34.

O. "bulbis ovatis ancipitibus confertis; foliis solitariis lanceolatis, basi attenuatis bulbo innatis; scapo distichè vaginato; floribus longè pedunculatis; gynostemio alato."

Hab. in montibus *Mexici* prope Irapæum; Llave.

Planta habitu gracillima, odore grato. Pseudobulbi lenticulares, v. ancipites, pollicares, monophylli. Scapus flexuosus. Flores nivei, maculis concentricis versus basin purpurinis aut sanguineis variegati. Labellum ungue bilobo lutescente: dentibus duobus instructo; laminâ cordatâ, nervosâ, undulatâ, sublaceratâ.

5. Odontoglossum apterum. *Llave Orch. Mex.* 2. 35.

O. "bulbis ovatis depressis; foliis lato-lanceolatis nervosis conduplicatis; scapo tereti paucifloro; gynostemio aptero crasso."

Hab. cum præcedente; Llave.

Præcedenti simillimum. Labellum petaloideum, crenatum.

CXXXII. BRASSIA.

Brassia. *R. Brown. in Hort. Kew. ed.* 2. 5. 215.

Perianthium explanatum. Sepala et petala angusta, libera, æqualia; his nunc minoribus. Labellum planum, indivisum, ecalcaratum, columnâ continuum, basi bi-cristatum. Columna libera, aptera, nana. Anthera 1-locularis. Pollinia 2, posticè sulcata, caudiculâ brevi, glandulâ crassâ.——Epiphytæ pseudobulbosæ. Folia pergamenea. Scapi radicales vaginati. Flores speciosi, spicati.

1. Brassia maculata. *Brown. in Hort. Kew.* 5. 215. *Bot. Mag. t.* 1691.

B. sepalis petalisque linearibus acuminatis æqualibus, labello postico subrotundo emarginato.

Hab. in *Jamaica.* (*v. v. c.*)

2. Brassia caudata. *Lindl. in Bot. Reg. t.* 832.

B. sepalis ovato-lanceolatis acuminatis: lateralibus longissimis, petalis acutis minoribus, labello acuminato.

Helleborine ramosissima, caulibus et floribus maculosis. *Plum. Sp.* 9. *ic.* 277.
Epidendrum caudatum. *Linn. Sp. Pl.* 1349.
Malaxis caudata. *Willd. Sp. Pl.* 4. 93.

Hab. in *India occidentali.* (*v. v. c.*)

CXXXIII. TETRAPELTIS.

Tetrapeltis. *Wall. Mss. Lindl. in Bot. Reg.* 1522.

Perianthium subpatens. Sepala libera, æqualia. Petala angustissima, æquilonga. Labellum liberum, sessile, saccatum, geniculatum, trilobum, lobis lateralibus abbreviatis, intermedio indiviso. Columna erecta, petalorum longitudine, semiteres, clavata; clinandrio cucullato; rostello rostrato recto. Pollinia 4, globosa, posticè foveata; geminatim caudiculis duabus angustis glandulâ communi connexis adhærentia.——Herba epiphyta, caulescens. Caules squamis vaginati, curvi. Folia

geminata, lanceolata, plicata. Spica erecta, multiflora, foliis brevior. Flores albi.

1. Tetrapeltis fragrans. *Wallich. Ic. ined.*

Hab. verosimiliter in *Napalia.* (*v. ic. in bibl. Angl. Ind.*)

Caulis ascendens, brevis, squamatus, teres, internodio ultimo 3-pollicari, angulato, subnudo. Folia bina, breviùs petiolata, oblongo-lanceolata, 6-8 unc. longa, plicata. Racemus terminalis, erectus, 6-unc. long. à latere baseos foliorum, basi squamis viridibus vaginatus; rachi flexuosâ. Bracteæ deciduæ. Flores albi. Sepala uncialia, lineari-lanceolata. Petala linearia. Labelli lobi laterales acutiusculi, intermedius ovato-lanceolatus acutus, medio sulcatus.

CXXXIV. PHALÆNOPSIS.

Phalænopsis. *Blume Bijdr.* 294. *tabellen.* 44.

Perianthium explanatum, patens, sepalis liberis, petalis majoribus dilatatis. Labellum cum basi paulò productâ columnæ connatum, liberum, basi callosum, trilobum; lobis lateralibus ascendentibus petaloideis, intermedio angustiore bicirrhoso. Columna in ovarium recumbens, semiteres; rostello gladiato. Anthera bilocularis. Pollinia 2, subglobosa, caudiculâ planâ spatulatâ, glandulâ maximâ cordatâ.——Herba epiphyta. Caules radicantes, simplices. Folia rigida, lato-lanceolata, apice obliquè retusa. Flores paniculati.

Character ex Blume.

1. Phalænopsis amabilis. *Blume l. c.*

Epidendrum amabile. *Linn. Sp. Pl.* 1351. *Willd. Sp. Pl.* 4. 115.
Angræcum album majus. *Rumph. Amb.* 6. 99. *t.* 43.

Hab. in sylvis littoralibus *Nusæ Kamangæ* insulæ, Blume; *Amboyna,* Rumphius.

Folia bina, oblonga, coriacea, radicalia, pseudobulbo nullo. Scapus pedalis et ultra, 3-4-florus. Flores magni, albi. Sepala oblonga, obtusa. Petala suborbiculata, unguiculata. Labellum laciniis lateralibus ovatis, obtusis, incurvis, versus basin lutescentibus; basi callo elevato, truncato, luteo, sagittato instructum.

CXXXV. TRICHOGLOTTIS.

Trichoglottis. *Blume Bijdr.* 359. *tabellen* 8.

Perianthium explanatum, patens; sepalis lateralibus labello suppositis. Labellum cum marginibus columnæ connatum, saccatum, utroque margine cornutum, limbo carnoso indiviso; callo saccum subclaudente. Columna erecta, basi unicornis. Anthera 2-locularis. Pollinia 2, globosa, biloba, caudiculâ unicâ lineari, glandulâ parvâ hamatâ v. peltatâ. ——Herbæ epiphytæ, subramosæ, radicantes. Folia coriacea aut carnosa. Pedunculi laterales v. oppositifolii, brevissimi, pauci aut 1-flori.

Character ex Blume.

§. 1. *Labellum utrinque dente acuto inflexo auctum, intus pubescens; limbus patens. Columna apice utrinque dente instructa. Pollinia inæqualia.*

1. TRICHOGLOTTIS retusa. *Blume l. c. t. 8.*

T. "foliis linearibus retusis rigidis, floribus lateralibus subsolitariis, labelli limbo piloso."

Hab. in *Java,* in sylvis montanis Provinciarum Buitenzorg et Bantam, Blume.

2. TRICHOGLOTTIS lanceolaria. *Blume l. c.*

T. "foliis lineari-lanceolatis coriaceis, pedunculis paucifloris oppositifoliis, labelli limbo imberbi."

Hab. in *Java,* circa Buitenzorg et in sylvis montis Pantjar, Blume.

§. 2. *Labellum intus imberbe, dentibus lateralibus obtusis; limbus abbreviatus subfornicatus. Columna obtusa. Pollinia æqualia, basi sulcata.*

3. TRICHOGLOTTIS rigida. *Blume l. c.*

T. "foliis lineari-lanceolatis carnosis, floribus oppositifoliis subsolitariis, labelli limbo dentibusque lateralibus callosis."

Hab. in *Java,* in sylvis altioribus Salak, Blume.

CXXXVI. TELIPOGON.

Telipogon. *Humb. et Kunth. Nov. Gen. et Sp. Pl.* 1. 336.

Perianthium explanatum. Sepala angusta, acuta. Petala latè ovata. Labellum petalis conforme, sed paullò majus. Columna pilosa, teres, clinandrio posticè processu subulato uncinato instructo. Anthera unilocularis, altè bivalvis, processu clinandrio pedicello elongato fistuloso uncinato affixa. Pollinia 4, caudiculâ .... glandulâ.——Herbæ epiphytæ. Caules foliosi, pauciflori. Flores terminales, subspicati, pedicellati, flavescentes.

Char. ex Kunth. An partes ritè descriptæ.

1. TELIPOGON angustifolius. *Kunth l. c. t. 75.*

T. "foliis lineari-lanceolatis, acuminatis; labello imberbi."

Tradescantia nervosa. *Willd. Sp. Pl.* 2. 18.

Hab. supra arbores in locis temperatis regni *Novogranatensis,* juxta Sa. Anna Maraquita, alt. 400 hexap. Humb. et Bonpl.

Flores flavescentes.

2. TELIPOGON latifolius. *Kunth. l. c.*

T. "foliis lanceolato-oblongis, acutis; labello basi barbato."

Hab. in regione ferventissima Provinciæ Jaen de Bracamoros, inter pagos Choros et Tomependa, juxta confluentem et Chinchipes fluminis Amazonum; Humb. et Bonpl.

Præcedente omnibus partibus major.

CXXXVII. VANDA.

Vanda. *R. Brown in Bot. Reg. t.* 506. (1820.)——Luisia. *Gaudich. Voyage. t.* 37.——Fieldia. *Id.* 424.

Perianthium explanatum, patens, petalis sepalisque subæqualibus. Labellum saccatum, v. obconico-calcaratum, cum basi columnæ continuum, subtrilobum : lobo medio carnoso. Columna crassa, libera, abbreviata, rostello obtuso. Anthera bilocularis. Pollinia 2, obliquè biloba, caudiculâ lineari, glandulâ subrotundâ.——Herbæ epiphytæ, caulescentes. Folia disticha, coriacea. Spicæ oppositifoliæ. Flores speciosi.

1. Vanda Roxburghi. *R. Brown in Bot. Reg.* 506.

V. foliis apice obliquè tridentatis, racemis erectis foliis longioribus, sepalis petalisque oblongo-obovatis undulatis obtusis, labelli lobo medio ovato emarginato.

Vanda. *Sir W. Jones in As. Res.* 4. 302.
Cymbidium tesselloides. *Roxb. Fl. Ind. Mss.*

Hab. in *India orientali,* supra arbores præsertim Mangiferæ, Roxburgh, *Wallich.* (*hab. s. sp. comm. cel. Wight.*)

2. Vanda furva.

Angræcum furvum. *Rumph. Amb.* 6. *t.* 46. *f.* 1.
Epidendrum furvum. *Linn. Sp. Pl.* 1348.
Cymbidium furvum. *Willd. Sp. Pl.* 4. 103.

Hab. in *Amboyna,* Rumphius.

This obscure species was originally taken up by Linnæus, apparently from the figure above referred to in Rumphius; for he adopts the name of that author, although he also cites the wholly different plant figured in Rheede's Hortus Malabaricus, vol. 12. t. 4, which is a representation of Saccolabium papillosum. There is nothing in either the figure or description of Rumphius' A. furvum, that would not apply well enough to Vanda Roxburghi; but as it is impossible to say to which it belongs, without some Amboyna specimen, and as it may be different from either, I leave it as a mark to which future botanists may direct their attention.

3. Vanda longifolia. *Lindl. in Wall. Cat. no.* 7322.

V. foliis longis loratis apice obliquis obtusissimis, racemis horizontalibus foliis triplò brevioribus, sepalis oblongis obtusis (undulatis ?), petalis angustioribus, labelli hypochilio concavo pubescente apice rotundato : cristâ carnosâ per axin, epichilio subrotundo-ovato obtuso.

Hab. in *Tavoy, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia pedalia et ultra. Flores minores, carnosi.

4. Vanda gigantea. *Lindl. in Wall. Cat. no.* 7326.

V. foliis latè loratis apice obtusissimis emarginatis subæqualibus, racemis foliis duplò brevioribus, sepalis petalisque oblongo-obovatis obtusis, labello incurvo canaliculato basi cordato apice dolabriformi obtuso : callo conico in medio.

Hab. in *Moalmyne, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia sesquipedalia, 2½ poll. lata, carnosa. Flores magnitudine V. Roxburghi.

5. Vanda spatulata. *Spreng. Syst.* 3. 719.

V. foliis ovato-oblongis obtusis obliquè emarginatis, racemis erectis multifloris foliis et caule multò longioribus, sepalis petalisque oblongis obtusis planis, labelli hypochilio anticè bicalloso epichilio rhomboideo apice incurvo medio cristato, ovario hexaptero.

Ponnampou maravara. *Rheede* 12. *t.* 3.
Epidendrum spatulatum. *Linn. Sp. Pl.* 1348.
Limodorum spatulatum. *Willd. Sp.* 4. 125.
Aerides maculatum. *Smith ! in Rees suppl.*

Hab. in *Mysore, Buchanan, Wight.* (*hab. s. sp. comm. cel. Wight.*)

Species pulcherrima. Folia et racemi guttulis sanguineis notati. Flores aurei, immaculati; hypochilio intùs albo.

6. Vanda peduncularis.

V. foliis loratis apice altè et obliquè bilobis, pedunculo longissimo filiformi subramoso apice paucifloro corymboso, sepalis oblongis obtusis, petalis duplò minoribus, labello oblongo retuso villoso basi bilamellato.

Hab. in *Zeylona*, supra arbores, *Macrae.* (*hab. s. sp. et ic. pict.*)

Pedunculus sesquipedalis, purpureus. Flores magnitudine et facie Ophrydis apiferæ. Sepala et petala pallidè viridia, purpureo striata. Labellum purpureum, viridi marginatum.

7. Vanda multiflora. *Lindl. Collect. Bot. t.* 38.

V. foliis loratis apice obliquis emarginatis, pedunculis subramosis erectis subcorymbosis foliis brevioribus, sepalis petalisque oblongis obtusis maculatis subæqualibus, labello ecristato: lobo medio ovato acutiusculo.

Aerides rigidum. *Smith ! in Rees Suppl.*

Hab. in *China*; in *Napalia, Hamilton, Wallich.* (*v. ic. pict. et v. c.*)

Flores inter minores, lutei, sanguineo punctati.

8. Vanda lissochiloides.

V. foliis ensiformibus emarginatis racemo multifloro terminali brevioribus, sepalis petalisque oblongis obtusis, labello oblongo canaliculato apice uncinato.

Fieldia lissochiloides. *Gaudich. Voy.* 424. *t.* 36.

Hab. in insulis *Moluccis*, Gaudichaud.

Epiphyta, rhizomate repenti articulato. Folia longa, ensiformia, coriacea, emarginata, 12-15 uncias longa. Scapus terminalis, simplex, 1-3-pedalis. Spica multiflora. Flores speciosi, lutei, purpureo maculati. Bracteæ breves, ovatæ, rigidæ. Sepala et petala æqualia, oblonga, obtusa. Labellum oblongum, apice uncinatum, canaliculatum, basi saccatum et utrinque lobis duobus parvis ascendentibus instructum. Caudicula cuneata. Glandula maxima, hamata.

9. Vanda cristata. *Lindl. in Wall. Cat. no.* 7328.

V. foliis canaliculatis recurvis apice truncatis obliquè excisis tridentatis, racemo erecto trifloro foliis breviore, sepalis oblongis obtusis fornicatis, petalis angustioribus, labelli lobis lateralibus brevibus acutis intermedio vittato oblongo convexo apice saccato inæqualiter tricorni.

Aerides cristatum. *Wallich. Ic. ined.*

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Flores albi, viridi tincti. Labellum album, villis maculisque atropurpureis.

10. Vanda teres. *Lindl. in Wall. Cat. no.* 7324.

V. foliis teretibus, racemis ascendentibus sub-bifloris foliis æqualibus, sepalis oblongis obtusis: supremo erecto lateralibus semitortis labello suppositis, petalis majoribus suborbiculatis undulatis, labello basi conico: laciniis lateralibus ascendentibus subtruncatis intermediâ pubescente apice dilatatâ truncatâ emarginatâ.

Dendrobium teres. *Wallich Mss.*

Hab. in *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Flores omnium maximi, 4½ uncias ab apice unius petali ad apicem alterius.

CXXXVIII. RENANTHERA.

Arachnis. *Blume Bijdr.* 365. *tabellen* 26. Aerides. *Blume Bijdr.* 366. *tab.* 24. Renanthera. *Loureir. Fl. Coch.* 521.

Perianthium explanatum, patens. Sepala et petala linearia, subæqualia, v. lateralibus majoribus. Labellum liberum, nanum, cum columna elasticè articulatum, trilobum, medio saccatum; lobo medio carnoso. Columna aptera, abbreviata, erecta. Anthera bilocularis. Pollinia 2, biloba, caudiculâ unicâ, glandulâ subtriangulari peltatâ.——Herba epiphyta, caulescens. Caulis radicans, ramosus, altissimè scandens. Folia coriacea. Flores paniculati, speciosi.

1. Renanthera coccinea. *Lour. Fl. Coch.* 2. 637. *Bot. Reg. t.* 1131. *Bot. Mag. t.* 2997.

R. caule disticho folioso, foliis apice obliquis emarginatis, paniculis lateralibus multifloris, sepalis lateralibus unguiculatis undulatis lanceolatis obtusis superiore petalisque lineari-spatulatis longioribus, labelli lobis lateralibus truncatis: intermedio linguiformi reflexo.

Hung too han. *Ic. Sin. in Bibl. Soc. Hort. no.* 45.

Hab. in *Cochinchina,* supra arbores, Loureiro; nunc in hortis Chinensium vulgata, (*v. v. c.*)

Flores sanguinei.

2. Renanthera arachnites.

R. caule altissimè scandente, foliis lanceolatis, sepalis petalisque arcuatis æqualibus linearibus apice latioribus, labelli hirsuti lobis ovatis subæqualibus: intermedio intùs cristato apice bidentato.

Angurek Katong-ging. *Kæmpf. Amæn.* 868. *c. ic.*
Epidendrum flos aëris. *Linn. Sp. Pl.* 1348.
Limodorum flos aëris. *Swartz. Nov. Act. Ups.* 1740. *p.* 37.
Aerides arachnites. *Swartz in Schrad. Journ.* 1799. *p.* 233. *Willd. Sp. Pl.* 4. 131.
Arachnis moschifera. *Blume Bijdr.* 365. *t.* 26.

Hab. in *Japonia,* Kæmpfer; indè in hortis *Javæ* adducta, Blume.

3. Renanthera Sulingi.

R. "caulibus subramosis, foliis linearibus retusis, spicis simplicibus paucifloris, sepalis subæqualibus obtusiusculis, limbo ovato incrassato tuberculis lineato."

Aerides Sulingii. *Blume l. c.*

Hab. in *Java*, in rupibus ad montem Suling, provinciæ Buitenzorg, Blume

Flores sordidè purpurascentes.

4. Renanthera elongata.

R. " caule ramoso, foliis lato-linearibus obliquè emarginatis, paniculis elongatis nutantibus, sepalis exterioribus lateralibus internis latioribus spatulatis, labelli limbo ovato basi bicalloso."

Aerides elongatum. *Blume l. c.*

Hab. in *Java*, in rupibus calcareis prope Kuripan, Blume.

Flores punicei.

5. Renanthera matutina.

R. " caule ramoso, foliis linearibus obliquè retusis, pedunculis paniculatis nutantibus, sepalis lateralibus exterioribus connexis; labelli limbo ovato abbreviato."

Aerides matutinum. *Blume l. c. t.* 24.

Hab. in *Java*, in arboribus ad radicem montis Salak; Blume.

Flores coccinei, pulchelli.

CXXXIX. DIPLOCENTRUM.

Diplocentrum. *Lindl. in Bot. Reg.* 1522.

Perianthium subclausum, liberum. Sepalum supremum lateralibus paullò obliquis multò minus. Petala sepalo supremo paululùm majora. Labellum cum columna articulatum, indivisum, bicalcaratum. Columna minuta, semiteres, rostello obtuso. Pollinia 2? caudiculâ subulatâ, glandulâ maximâ concavâ.——Epiphyta, caulescens. Folia complicata, carnosa, recurva. Racemi paniculati, recurvi. Flores minuti. Calcaria brevia, obconica, incurva.

1. Diplocentrum recurvum. *Lindl. in Wall. Cat. no.* 7331.

Hab. in *India Orientali, Heyne* (*hab. s. sp. e Mus. Angl. Ind.*)

CXL. MICROSACCUS.

Microsaccus. *Blume Bijdr.* 367.

Sepala linearia, lateralia labello adnata. Petala conformia. Labellum columnæ anticè adnatum, basi saccatum; limbo abbreviato fornicato. Columna nana, aptera, obtusa. Anthera semibilocularis. Pollinia 4, obovata, basi foveata, caudiculâ unicâ.——Herba epiphyta, pusilla. Caules simplices, compressi. Folia scalpelliformia, equitantia, rigida. Pedunculi intrafoliacei, pauciflori.

Character ex Blume.

1. Microsaccus Javensis. *Blume l. c.*

Hab. in *Java*, in sylvis montis Salak supra arbores, Blume.

CXLI. CAMAROTIS.

Perianthium explanatum. Sepala lateralia invicem et cum dorso labelli connata, apice libera. Petala paululùm minora, libera. Labellum obovatum, canaliculatum, apice monocameratum, appendiculatum. Columna erecta, teres, libera, longissimè sigmoideo-rostrata: antherâ dorsali, apiculatâ, semibiloculari. Pollinia 2; caudiculâ longissimâ, subulatâ; rostello forficato.——Caulescens. Folia disticha, coriacea. Racemi axillares, multiflori.

1 Camarotis purpurea. *Lindl. in Wall. Cat. no.* 7329.

Hab. in *Sylhet, Wallich* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Folia emarginata, oblongo-linearia, apice subæqualia. Flores pallidè purpurei, labello apice intensiore. Labellum apice sub appendiculo subulato inflexo foramine instructum, quod os est cameræ calceiformis, totum apicem labelli constituentis; latera labelli paululum agglutinantur, sed margines patuli.

CXLII. CHILOSCHISTA.

Chiloschista. *Lindl. in Bot. Reg.* 1522.

Perianthium subpatens. Petala sepalis majora, cum sepalis lateralibus basi longè productæ columnæ adnata. Labellum cum ungue columnæ articulatum, bipartitum, medio cristatum. Columna minima, erecta, semiteres. Pollinia 2, caudiculâ brevi, subulatâ, glandulâ minutâ.——Herba humilis, epiphyta, hirsuta, aphylla; radicibus complanatis viridibus (quasi foliaceis!). Spicæ erectæ. Plores albi, odorati.

1. Chiloschista usneoides. *Lindl. in Wall. Cat. no.* 7330.

Epidendrum usneoides. *Don. Prodr. Nep.* 37.

Hab. in *Napalia, Wallich* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Racemi 5 uncias longi; ovariis pubescentibus.

CXLIII. MICROPERA.

Micropera. *Lindl. in Bot. Reg.* 1522.

Perianthium æquale, patens, sepalis lateralibus basi labelli adnatis. Labellum cum basi columnæ continuum, calceiforme, leviter trilobum, lobo intermedio minimo, lateralibus majoribus erectis. Columna brevis, rostello maximo inflexo. Pollinia 2, caudiculâ subulatâ.——Epiphyta, caulescens. Folia disticha, linearia, arcuata, apice æqualia, emarginata. Spicæ laterales, horizontales, foliis breviores. Flores citrini.

1. Micropera pallida. *Lindl. in Wall. Cat. no.* 7321.

Hab. in *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Caulescens. Folia latè linearia, apice obliqua, subtridentata. Racemi breves, 8-15-flori. Flores pallidè flavi, mediocres. Capsulæ angustæ, teretes, 2 uncias longæ.

CXLIV. SACCOLABIUM.

Saccolabium. *Blume Bijdr.* 292. *tabellen* 50.——Gastrochilus. *Don. Prodr. Nep.* 32.——Robiquetia. *Gaudich. Voyage*, 426.——Gussonea. *Ach. Rich. Orch. Maur.* 76.——Rhyncostylis. *Blume l. c.* 285. *t.* 49.

Perianthium explanatum, patens. Sepala petalis æqualia, lateralia sæpiùs majora. Labellum indivisum, calcaratum, basi columnæ accretum. Columna erecta, semiteres, rostello subulato. Anthera semibilocularis. Pollinia 2, subglobosa, caudiculâ elongatâ, glandulâ minutâ.——Herbæ epiphytæ, caulescentes. Folia disticha, coriacea, apice sæpiùs obliqua. Flores axillares, racemosi v. solitarii.

§ I. *Labelli calcar perianthio patenti æquale, v. brevius; apice sæpius in laminam petaloideam productum.*

1. Saccolabium pusillum. *Blume Bijdr.* 292. *t.* 50.

S. pusillum caulescens, foliis linearibus rigidis distichis, floribus axillaribus subpedicellatis solitariis.

Hab. in *Java*, in sylvis altis montis Gede, Blume.

2. Saccolabium micranthum. *Lindl. in Wall. Cat. no.* 7300.

S. foliis oblongo-loratis apice obliquis obtusis altè bilobis, racemis cernuis densifloris foliis brevioribus, sepalis subrotundo-ovatis, petalis linearibus obtusis, labelli calcare subrotundo: laminâ obovatâ obtusâ v. acutâ basi callo reflexo instructâ.

Hab. in *Napalia*, et *Sylhet*, *Wallich* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Species parva, pulchella. Folia 2-3 poll. longa. Flores parvi. Sepala et petala violacea: labellum intensè roseum.

3. Saccolabium densiflorum. *Lindl. in Wall. Cat. no.* 7311.

S. foliis lorato-oblongis apice obliquis obtusis emarginatis, racemis densis cylindraceis foliis æqualibus v. brevioribus, floribus extùs scabris, sepalo supremo fornicato, labello infundibulari: apice calcaris ventricoso quater gibboso: laminâ acuminatâ.

Aerides densiflorum. *Wall. Ic.*

Hab. in *Sylhet* et *Penang*, supra arbores et saxa, *Wallich* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Folia circiter 6 uncias longa, 1 lata, atro-viridia. Sepala et petala intùs roseo-lateritia, medio alba, extùs fusca. Labellum lutescens, anticè rubescens.

4. Saccolabium guttatum. *Lindl. in Wall. Cat. no.* 7308.

S. foliis longis canaliculatis inæqualiter truncatis arcuatis, racemis cylindraceis densifloris arcuatis æqualibus, sepalis ovatis, petalis duplò angustioribus, labelli calcare compresso truncato-conico intùs pubescente: laminâ lanceolatâ inflexâ dorso subcostatâ, capsulis oblongis hexagonis.

Ansjeli-maravara. *Rheede* 12. *t.* 1.
Epidendrum retusum. *Linn. Sp. Pl.* 1351.
Limodorum retusum. *Swartz. Nov. Act. Ups.* 6. 80.
Aerides retusum. *Swartz. in Schrad. Diar.* 1799. *p.* 233. *Willd. Sp. Pl.* 4. 130.
Aerides guttatum. *Roxb. Mss.*
? Rhyncostylis retusa. *Blume Bijdr. p.* 286.
Sarcanthus guttatus. *Lindl. Bot. Reg. t.* 1443.

Hab. in *India Orientali, Malabaria,* Rheede; *Java,* Blume; *Sylhet, Chittagong, et Napalia, Wallich (hab. s. sp. e Mus. Angl. Ind. et v. v. c.)*

Species pulchrior omnibus. Folia pedalia. Flores albi roseo-violaceo guttati; laminâ labelli unicolore.

5. Saccolabium spicatum.

S. "foliis lineari-lingulatis recurvis apice truncatis cum mucronulo, spicis basilaribus elongatis multifloris, labello indiviso ovali margine undulato demum infernè cornuto, foliolis perianthii subrotundo-ovalibus: anticis maximis alæformibus, calcare saccato descendente." *Don.*

Epidendrum Hippium. *Hamilt. Mss.*
Aerides spicatum. *Don. Prodr. Nep.* 31.

Hab. in *Napalia,* Hamilton.

6. Saccolabium præmorsum.

S. foliis radicalibus linearibus canaliculatis apice præmorsis cuspidatis, racemis longissimis, labelli calcare infundibulari obtuso recurvo: laminâ ovatâ acutâ.

Biti-marum-maravara. *Rheede* 12. *t.* 2.
Aerides præmorsum. *Willd. Sp. Pl.* 4. 130.
Rhyncostylis præmorsa. *Blume Bijdr. p.* 286.

Hab. in insulis et continente *Indiæ Orientalis,* Rheede, Blume.

7. Saccolabium ringens. *Lindl. in Wall. Cat. no.* 7313.

S. foliis ......, racemo subramoso stricto crassiusculo multifloro, perianthio ringente, sepalis ovatis acutis, petalis paulò minoribus, labelli calcare infundibulari obtuso incurvo: laminâ trilobâ basi callosâ: lobis lateralibus nanis rotundatis intermedio ovato acuto.

Hab. in *India Orientali* prope Madras, *Wight (hab. s. sp. comm. cel. Wight.)*

Flores magnitudine S. guttati.

8. Saccolabium giganteum. *Lindl. in Wall. Cat. no.* 7306.

S. foliis latis loratis carnosis apice uncinato-bilobis obliquis, racemis cylindraceis multifloris, sepalis oblongis obtusis, petalis angustioribus obovatis, labelli calcare conico laminâ breviore obovatâ carnosâ apice 3-lobâ: lobis rotundatis intermedio inflexo minore.

Hab. in *India Orientali,* prope Prome, *Wallich (hab. s. sp. e Mus. Angl. Ind.)*

Flores magnitudine S. guttati.

9. Saccolabium Wightianum. *Lindl. in Wall. Cat. no.* 7303.

S. foliis canaliculatis angustis obtusis carnosis apice subæqualibus, racemis erectis ramosis foliis longioribus, sepalis petalisque ovatis obtusis, labelli calcare cylindraceo obtuso arcuato: laminâ lanceolatâ basi callo bilobo carnoso instructâ: lobis lateralibus rotundatis, capsulis tripteris et tricostatis.

S. lineare. *Lindl. l. c. no.* 7312.

Hab. in *India Orientali, Heyne, Wight (hab. s. sp. e Mus. Angl. Ind. et comm. amic. Wight.)*

Exemplaria Heyneana florifera manca et nimis sub exsiccatione compressa haud veram partium structuram docent; Wightiana fructifera floribus carent nisi vestigiis quibusdam corrugatis in apicem capsularum. Olim

diversas species putavi, nunc autem, re meliùs perpensâ, conjungo.— Racemi 6-8 poll. longi. Flores magnitudine S. guttati.

10. Saccolabium curvifolium.

S. foliis linearibus canaliculatis arcuatis apice obliquè præmorsis, racemis erectis densis multifloris, sepalis ovatis: lateralibus majoribus, petalis obovatis, labelli calcare cylindraceo obtuso laminâ lineari truncatâ.

Hab. in *Napalia, Wallich; Zeylona, Macrae.* (*hab. s. sp. et v. ic. pict. in Bibl. Mus. Angl. Ind.*)

Folia angusta 8-9 unc. longa. Racemi breviores, 2½ unc. longi. Flores ruberrimi.

11. Saccolabium rubrum. *Lindl. in Wall. Cat. no.* 7310.

S. foliis canaliculatis arcuatis apice bidentatis, racemis erectis multifloris, sepalis petalisque ovatis, labelli calcare cylindraceo obtuso incurvo laminâ ovali acuminatâ apice subcarnosâ basi bicorniculatâ.

Saccolabium ampullaceum. *Lindl. in Wall. Cat. no.* 7307 vix distinguendum.

Hab. in *Napalia, Moalmyne,* ad ripas fluminis *Attran,* Wallich. (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Species pulcherrima S. *curvifolio* simillima, sed structura labelli certè diversa; color ferè idem sed paulò magis roseus; an meræ varietates?

12. Saccolabium papillosum. *Lindl. in Bot. Reg. t.* 1552.

S. foliis ligulatis apice obliquis cuspidatis, racemis brevissimis capitatis, sepalis carnosis lineari-ovatis obtusis, labelli calcare obconico obtuso intùs villoso laminâ ovatâ carnosâ papillosâ recurvâ.

Thalia maravara. *Rheede* 12. *t.* 4.
Cymbidium præmorsum. *Swartz. Nov. Act. Ups.* 6. 75. *Willd. Sp. Pl.* 4. 103.
Epidendrum præmorsum. *Roxb. Corom.* 1. 34. *t.* 43.
Aerides undulatum. *Smith. in Rees. suppl.*

Hab. in *Malabaria,* Rheede; juxta *Prome, Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. v. c.*)

Caulis arcuatus, subpedalis, distichè foliosus, radices tortuosas promens. Folia atroviridia, 4-6 poll. longa. Racemi parvi, foliis triplò breviores. Flores albi, luteo purpureoque picti.

13. Saccolabium dasypogon.

S. acaule, foliis ovato-oblongis acutis apice obliquè bidentatis, corymbis subumbellatis densifloris foliis æqualibus, sepalis petalisque lineari-oblongis incurvis, labelli laminâ dilatatâ subcordatâ denticulatâ.

Epidendrum umbellatum. *Hamilt. Mss.*
Aerides dasypogon. *Smith. in Rees. suppl.*

Hab. in *Napalia, Hamilton.* (*v. ic. pict. penes Dom. Bauer.*)

Sepala et petala extùs viridia, intùs sanguinea. Labellum album, punctis luteis sanguineisque maculatum.

14. Saccolabium undulatum. *Lindl. in Wall. Cat. no.* 7301.

S. acaule, foliis angustè loratis undulatis acuminatis apice obliquis obtusis, racemis brevibus multifloris, sepalis ovato-oblongis acutis, petalis duplò angustioribus, labelli calcare oblongo apice subinflato: laminâ oblongâ obtusâ levissimè trilobâ.

Hab. in *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Flores parvi.

15. SACCOLABIUM acutifolium.

S. foliis oblongo-loratis carnosis acutis apice integerrimis, corymbis multifloris, sepalis petalisque obovato-oblongis acutiusculis, labelli calcare brevi ventricoso: laminâ dilatatâ trilobâ denticulatâ: lobis lateralibus intermedio majoribus.

Aerides umbellatum. *Wallich. Ic.* 1137.

Hab. in *India Orientali, Wallich.* (*v. ic. pict. in bibl. Angl. Ind.*)

Folia ex icone rigida, disticha, 6-8 p. longa. Flores lutei, unicolores; labello albo, medio rubescente.

16. SACCOLABIUM calceolare. *Lindl. in Wall. Cat. no.* 7302.

S. subacaule, foliis loratis acuminatis apice obliquè bidentatis, corymbis multifloris breviter pedunculatis, sepalis petalisque obovato-oblongis obtusis, labelli calcare inflato orbiculato: laminâ lunatâ rotundatâ ciliatâ.

Gastrochilus calceolaris. *Don. Prodr. Nep.* 32.
Aerides calceolare. *Smith. in Rees. suppl.*

Hab. in *Napalia* et *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Folia 9 p. longa, basi maculata. Sepala et petala flava, maculis subrotundis purpureis notata. Labellum album; laminâ basi luteo et coccineo punctatâ.

17. ? SACCOLABIUM clavatum.

S. "caulescens, pendulum, foliis lineari-clavatis apice bidentatis, spicis oppositifoliis, labello inflato barbato." *W.*

Epidendrum clavatum. *Retz. Obs.* 6. *p.* 50.
Limodorum clavatum. *Willd. Sp. Pl.* 4. 126.

Hab. in arboribus *Indiæ Orientalis.*

18. SACCOLABIUM obliquum. *Lindl. in Wall. Cat. no.* 7304.

S. acaule, foliis latè loratis apice obtusis bilobis valdè obliquis, corymbis brevibus axillaribus multifloris breviter pedunculatis, sepalis petalisque lineari-obovatis obtusis, labelli calcare inflato orbiculato: laminâ deltoideâ fimbriatâ.

Hab. in *India Orientali,* supra montem Toong Dong, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Folia glauco-viridia, undulata, 6-10 poll. longa, ferè 2 poll. lata. Flores lutei, labello albo; maculæ quædam minutæ roseæ adsunt ad basin perianthii et marginem labelli.

19. SACCOLABIUM ascendens.

S. caule ramoso repente, foliis coriaceis planis basi vaginantibus, racemis lateralibus elongatis, sepalis petalisque conniventibus subæqualibus, labelli calcare clavato: laminâ trilobâ parvâ: laciniis lateralibus inflexis.

Robiquetia ascendens. *Gaudich. Voy.* 426. *t.* 34.

Hab. in insulis *Moluccis* ad arborum truncos, Gaudichaud.

20. SACCOLABIUM aphyllum.

S. aphyllum, caulibus tortuosis squamosis scandens, radicibus longissimis tortuosis, racemis brevibus erectis multifloris, sepalis petalisque ovalibus, labelli calcare infundibulari apice inflato obtuso: laminâ ovatâ acutâ.

Angræcum aphyllum. *Thouars. Orch. Afr. t.* 73.
Gussonea aphylla. *Ach. Rich. Orch. Maur. p.* 76. *t.* 11.

Hab. in insulis *Mauritio, Borbonia,* et *Madagascaria,* Thouars.

Flores minuti, rubescentes.

21. Saccolabium striatum.

S. foliis loratis apice obliquè bilobis, racemis erectis rarifloris foliis brevioribus, sepalis petalisque ovatis acutis, labelli calcare conico obtuso in laminâ ovatâ acutâ producto.

Angræcum striatum. *Thouars. Orch. Afr. t.* 72.

Hab. in *Borbonia,* Thouars.

Flores mediocres, albi.

22. Saccolabium coriaceum.

S. "foliis caulinis ovatis acuminatis subcoriaceis lineatis, spicis paniculatis." *Sw.*

Aerides coriaceum. *Swartz. in Schrad. Diar. Bot.* 1799. 234. *Willd. Sp. Pl.* 4. 131.

Hab. in *Madagascar,* Swartz.

23. Saccolabium ramosum.

S. foliis angustis planis arcuatis apice obliquè præmorsis erosis, racemis ramosissimis erectis foliis longioribus: ramis divaricatis, sepalis obovato-oblongis obtusis, petalis obovatis angustioribus, labelli calcare conico subarcuato obtuso margine dentato: laminâ oblongâ rotundatâ lobis 2 lateralibus obsoletis.

Aerides ramosum. *Wall. Ic. no.* 654.

Hab. supra arbores *Deltæ Gangeticæ, Wallich.* (*v. ic. pict. in bibl. Angl. Ind.*)

Folia 6 uncias longa, semunc. lata. Flores parvi; petala et sepala pallidè lateritia margine lutescentia; labellum album roseo tinctum.

24. Saccolabium racemiferum.

S. foliis loratis planis apice obliquè emarginatis obtusis, racemis ramosis foliis brevioribus, sepalis ovatis, petalis linearibus, labelli calcare conico obtuso compressiusculo: margine anteriore loco laminæ acuto denticulo subulato utrinque instructo.

Aerides racemiferum. *Wallich. Ic. no.* 655.

Hab. in *India Orientali, Wallich.* (*v. ic. pict. in bibl. Angl. Ind.*)

Folia pedalia et ultra. Flores parvi. Perianthium intùs fusco-rubrum, laciniis per axin et margine lutescentibus. Labellum albidum, verosimiliter carnosum. *S. densifloro* affine.

25. Saccolabium niveum.

S. foliis distichis lineari-loratis rectis apice obtusis emarginatis subæqualibus, pedunculis ancipitibus ramosis foliis multò longioribus, floribus spicatis, sepalis conniventibus dorsali lateralibus duplò minore, labelli calcare cylindraceo obtuso laminæ spatulatæ carnosæ æquali.

Hab. in *Zeylona,* supra saxa in collibus altis ad Peradeniam, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Folia 2½ p. longa, 3 l. lata, exsiccatione recurva. Spicæ ramosæ, 6-8 p. longæ. Flores minuti, albi, basi virescentes. Petala sepalo dorsali majora, lateralibus minora.

26. Saccolabium reflexum. *Lindl. in Wall. Cat. no.* 7309.

S. foliis brevibus angustè oblongis apice bilobis, racemis erectis ramosis multifloris, sepalo supremo petalisque reflexis linearibus undulatis: lateralibus conformibus duplò longioribus et latioribus, labelli calcare scrotiformi ventricoso lobis lateralibus rotundatis marginato laminâ ovatâ acutâ.

Hab. in *Sincapore, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis facie omninò Epidendri elongati. Racemi pedales, lignosi. Flores minuti, Lipareos cujusdam facie.

§ II. Ceratidium. *Labelli calcar perianthio clauso triplò longius; laminâ obsoletâ.* An genus distinctum? An Tæniophyllo meliùs referendum?

27. Saccolabium brevifolium.

S. foliis lineari-oblongis brevibus obtusis apice subæqualibus emarginatis, racemis horizontalibus foliorum longitudine, sepalis petalisque conniventibus, labelli calcare recto sub-cylindraceo apice conico obtuso sepalis triplò longiore; laminâ minimâ acutâ.

Hab. in *Zeylona*, supra arbores ad Maturatam, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Folia sesquipollicaria, 4 lineas lata. Flores parvi sanguinei; labello basi luteo.

28. Saccolabium roseum.

S. foliis linearibus apice obliquis obtusis emarginatis, racemis paucifloris foliis brevioribus, sepalis petalisque inæqualibus conniventibus acutis, labelli postici calcare longissimo obtuso cylindraceo incurvo: laminâ minimâ acutâ.

Hab. in *Zeylona*, supra arbores in sylvis submontanis, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Pusilla, caulescens. Folia 2 p. longa, 2 lineas lata. Flores parvi, rosei. Sepala æqualia, libera; petala duplò latiora. Labellum sepalis ferè ter longius, in calcare botuliformi obtuso subincurvo productum; margine faucis leviter inflexo; laminâ nullâ nisi dente parvo. Caudicula longa subulata.

29. Saccolabium gracile.

S. foliis ensiformibus apice valdè obliquis subfalcatis, racemis strictis gracilibus multifloris foliis æqualibus, sepalis petalisque ovatis acutis æqualibus reflexis, labelli calcare conico sepalis duplò longiore: laminâ minimâ acutâ.

Hab. in *Zeylona*, supra arbores in sylvis submontanis, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Species parva, gracilis, verosimiliter ab arboribus dependens. Folia 5 p. longa, 3 lin. lata. Flores parvi, nivei.

CXLV. TÆNIOPHYLLUM.

Tæniophyllum. *Blume Bijdr.* 355. *tabellen* 70.

Perianthium connivens. Sepala basi connata; lateralibus labello adnatis. Labellum calcaratum, basi columnæ accretum; limbo integro; calcare

inappendiculato. Columna nana, erecta, rostello ovato. Anthera semibivalvis. Pollinia 4, caudiculâ capillari, glandulâ minutissimâ.——Herbæ pusillæ, epiphytæ, acaules. Folia fasciculata, linearia, plana, fasciolata. Flores spicati, bracteolati, minutissimi.

Character ex Blume.

1. Tæniophyllum glandulosum. *Blume l. c.*

T. " spicâ elongatâ retroflexâ glandulis adspersâ laxiflorâ, labelli limbo acuminato intùs ad apicem denticulo instructo."

Hab. in *Java,* sylvis altioribus montium Gede et Pangurangu, Blume.

2. Tæniophyllum hirtum. *Blume l. c.*

T. " spicâ elongatâ leviter flexuosâ laxiflorâ hirtâ, labelli limbo acuminato intùs edentulo, rostello anticè valde producto."

Hab. in *Java,* in arboribus ad montem Gegar Bentang, Blume.

3. Tæniophyllum acuminatissimum. *Blume l. c.*

T. " spicâ abbreviatâ retroflexâ glabrâ pauciflorâ, bracteis approximatis, sepalis et labello acuminatissimis margine inflexis."

Hab. in *Java,* montosis Pantjar provinciæ Buitenzorg, Blume.

4. Tæniophyllum obtusum. *Blume l. c.*

T. " spicis abbreviatis strictis scabris, bracteis bifariam imbricatis, labelli limbo obtuso."

Hab. in *Java,* ad montem Burangrang provinciæ Krawang, Blume.

CXLVI. CLEISOSTOMA.

Cleisostoma. *Blume Bijdr.* 362. *tabellen* 27.

Sepala et petala patentia, linearia, subæqualia, anterioribus labello suppositis. Labellum calcaratum, cum basi columnæ accretum; calcare dente clauso; limbo tridentato. Columna erecta, semiteres. Anthera semibilocularis. Pollinia 2, biloba, subglobosa, caudiculâ filiformi, glandulâ minutâ hamatâ.——Herbæ epiphytæ, caulescentes. Caules radicantes. Folia disticha, rigida, subcarnosa. Spicæ oppositifoliæ, subramosæ.

Character ex Blume.

1. Cleisostoma suaveolens. *Blume l. c.*

C. " foliis lato-linearibus obliquè retusis, labelli limbo fornicato cum mucrone fimbriato."

Hab. in *Java,* sylvis Nusæ Kambangæ insulæ, Blume.

2. Cleisostoma subulata. *Blume l. c.*

C. " foliis lineari-lanceolatis apice contracto-subulatis, labelli limbo ovato acuto margine utrinque tumido."

Hab. in *Java,* prope Tjilele in montanis Parang provinciæ Tjanjor, Blume.

3. Cleisostoma sagittata. *Blume l. c. t.* 27.

C. " foliis linearibus retusis, labelli limbo recto sagittato."

Hab. in *Java,* in montanis Pantjar, provinciæ Buitenzorg, Blume.

Variat, floribus minoribus, foliis angustioribus.

4. Cleisostoma spatulata. *Blume l. c.*

C. " foliis lato-linearibus obliquè retusis, spicis simplicibus, labelli dentibus lateralibus abbreviatis obtusis, limbo spatulato."

Hab. in *Java,* in montanis Pantjar provinciæ Buitenzorg, Blume.

5. Cleisostoma callosa. *Blume l. c.*

C. " foliis linearibus obliquè retusis, spicis simplicibus, labelli dentibus lateralibus rotundatis internè callosis, limbo ovato brevissimo."

Hab. in *Java,* in montanis Pantjar, provinciæ Buitenzorg, Blume.

6. Cleisostoma maculosa.

C. caulescens, foliis loratis distichis apice bilobis obliquis obtusis, spicis erectis subramosis, sepalis petalisque obovato-oblongis patentibus æqualibus, labelli calcare poculiformi : dente dorsali ovato, laminâ brevissimâ rotundatâ.

Hab. in *Zeylona,* supra arbores, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Folia 6-8 p. longa, plana, carnosa. Flores minores, extùs rosei, intùs lutei maculis fuscis confluentibus maculosi. Labellum album.

7. Cleisostoma acaulis.

C. acaulis, foliis loratis apice obliquè et acutè bilobis, corymbis brevipedunculatis paucifloris, sepalis petalisque subrotundo-oblongis carnosissimis, labello saccato cymbiformi acuto carnosissimo.

Hab. in *Zeylona,* supra arbores in locis montosis, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Folia 3-4 p. longa. Flores parvi. Sepala et petala lutescentia apice virescentia, maculis parvis sanguineis notata. Labellum album medio flavum, cum basi columnæ continuum, basi intùs dente valido solitario auctum.

? 8. Limodorum complanatum (caulescens simplex pendulum, foliis retusis convexis subtùs carinatis, spicâ oppositifoliâ compressâ, labello retuso). *Willd. Sp. Pl.* 4. 126.

Epidendrum complanatum. *Retz. Obs.* 6. 50.

Hab. in arboribus *Indiæ Orientalis.*

CXLVII. APPENDICULA.

Appendicula. *Blume Bijdr.* 297. *tabellen* 40.

Perianthium clausum. Sepala basi subconnata; lateralibus ungui longè producto columnæ obliquè adnatis, calcar obtusum æmulantibus; dorsali subfornicato. Petala minora. Labellum liberum, concavum, indivisum, basi appendiculatum, v. margine elevato cinctum, ungui columnæ longè producto affixum. Columna nana. Anthera dorsalis, 2-locularis : loculis sub-4-locellatis. Pollinia 8, nunc abortu pauciora, clavata, basi attenuata, glandulâ longâ, caudiculâ verâ nullâ.——Epiphytæ, simplicicaules, v. ramosæ, teretiusculæ, rariùs foliosæ. Folia disticha, plerumque membranacea. Pedunculi spicato-multiflori, rariùs solitarii.

Character ex Blume.

§ I. *Flores in spicis elongatis. Labellum sepalis lateralibus rarò connatum, integrum.*

1. Appendicula pendula. *Blume l. c.*

A. " caulibus simplicibus superne compressiusculis, foliis lineari-lanceolatis apice tricuspidatis, spicis axillaribus lateralibus terminalibusve solitariis confertisve pendulis folio longioribus, labelli limbo ovato obtuso cum mucrone."

Hab. in *Java,* in montanis provinciarum Buitenzorg, Bantam et Tjanjor, Blume.

Bracteæ ovales, obtusæ, concavæ reflexæ.

2. Appendicula cristata. *Blume l. c.*

A. " caulibus ramosis compressis, foliis lineari-lanceolatis apice tricuspidatis, spicis oppositifoliis axillaribus terminalibusve solitariis longissimis subramosis inferne nudis compressis, labelli limbo rotundato emarginato interne utrinque cristato."

Hab. in *Java,* in montanis Pantjar, Blume.

3. Appendicula anceps. *Blume l. c.*

A. " caulibus simplicibus foliaceis, foliis lanceolatis apice tricuspidatis, spicis oppositifoliis terminalibusve solitariis geminisve folio brevioribus, labelli limbo obtusiusculo reflexo."

Hab. in *Java,* in montibus provinciarum occidentalium Javæ insulæ, Blume.

Sepala lateralia exteriora ungui labelli inferne adhærentia.

4. Appendicula alba. *Blume l. c.*

A. " caulibus simplicibus compressiusculis, foliis lineari-lanceolatis retuso-mucronatis, spicis axillaribus simplicibus terminalibusve sæpè geminatis folio brevioribus, labelli limbo obtuso."

Hab. in *Java,* locis umbrosis ad montem Salak, Blume.

Flores albi mediocres.

5. Appendicula ramosa. *Blume l. c.*

A. " caulibus ramosis teretiusculis, foliis ovali-oblongis (parvis) retuso-mucronatis, spicis paucifloris oppositifoliis terminalibusve solitariis folio subæqualibus labelli limbo obtuso interne bicalloso."

Hab. in *Java,* ad marginem fluvii Tjapus in montosis Salak, Blume.

6. Appendicula pauciflora. *Blume l. c.*

A. " caulibus simplicibus teretibus, foliis ovalibus (parvis) retuso-mucronulatis, pedunculis oppositifoliis brevissimis subunifloris, labelli limbo obtuso cum mucrone."

Hab. in *Java,* in sylvis altioribus montis ignivomi Gede, Blume.

7. Appendicula buxifolia. *Blume l. c.*

A. " caulibus ramosis teretibus, foliis linearibus (parvis) obliquè mucronulato-retusis rigidis lucidis, spicis axillaribus terminalibusve solitariis folio brevioribus paucifloris, labelli limbo rotundato crenulato intus ad marginem tumido."

Hab. in *Java,* supra montem Pantjar, &c. Blume.

Flores parvi, flavescentes.

8. Appendicula carnosa. *Blume l. c.*

A. "caulibus simplicibus teretibus, foliis linearibus apice inæquali-obtusis carnosis, pedunculis axillaribus v. intrafoliaceis brevissimis 1-2-floris, labelli limbo rotundato emarginato recto."

Hab. in *Java,* sylvis altioribus montis Salak, Blume.

Flores parvi, albido-virescentes; sepala lateralia exteriora calcar obtusum referentia, ungui labelli adglutinata.

9. Appendicula angustifolia. *Blume l. c.*

A. "caulibus simplicibus teretibus, foliis linearibus obliquè retusis canaliculatis rigidiusculis, spicis axillaribus solitariis folio brevioribus, limbi acuti marginibus incurvis."

Hab. in *Java,* sylvis altioribus Salak, Blume.

10. Appendicula reflexa. *Blume l. c.*

A. "caulibus simplicibus teretibus, foliis ovalibus retuso-mucronulatis, spicis supra-axillaribus solitariis folio brevioribus densifloris, labelli limbo patente obtuso cum mucrone."

Hab. in *Java,* in arbores ad ripas fluvii Tjapus et in humidis montis Pantjar, Blume.

Flores minuti, albidi; labellum inferne sepalis lateralibus exterioribus adhærens.

11. Appendicula undulata. *Blume l. c.*

A. "caulibus simplicibus compressis, foliis ovalibus retuso-mucronulatis, spicis oppositifoliis solitariis folio æqualibus, labelli limbo ovato undulato."

Hab. in *Java,* in sylvis Pantjar, Blume.

Labellum inferne sepalis exterioribus junctum, intùs appendiculo ligulato emarginato instructum.

12. Appendicula purpurascens. *Blume l. c.*

A. "caulibus simplicibus compressis, foliis ovalibus retuso-mucronatis, spicis filiformibus subramosis oppositifoliis terminalibusve folio multo longioribus, labelli limbo ovato acutiusculo."

Hab. in *Java,* sylvis montium Salak et Gede, Blume.

13. Appendicula cornuta. *Blume l. c.*

A. "caulibus simplicibus teretibus, foliis ovalibus retuso-mucronulatis, spicis terminalibus oppositifoliisve solitariis folio brevioribus paucifloris, labelli limbo obtuso intus calloso, gynostemio utroque latere dente recurvo instructo."

Hab. in *Java,* in sylvis montium Seribu et Pantjar, Blume.

Flores albi mediocres.

14. Appendicula congenera. *Blume l. c.*

A. "caulibus foliis et spicis præcedentis sed labello reflexo rotundato concavo intus nudo, gynostemio edentulo."

Hab. in *Java,* supra montem Pantjar, Blume.

Flores magnitudine præcedentis.

15. Appendicula torta. *Blume l. c.*

A. " caulibus simplicibus compressis, foliis ovalibus retuso-mucronulatis, spicis terminalibus solitariis bracteis coloratis (roseis) bifariam imbricatis, labello torto."

Hab. in *Java,* montanis Seribu et Pantjar, Blume.

§ II. *Flores terminales, capitati, bracteis paleaceis cincti. Labellum sepalis lateralibus exterioribus plerumque infernè adnatum, sublobatum.*

16. Appendicula callosa. *Blume l. c.*

A. " caulibus simplicibus teretiusculis, foliis lineari-ovalibus retuso-mucronulatis, vaginis foliorum bidentatis, labelli limbo lato-ovato internè calloso patente."

Hab. in *Java,* montanis provinciarum Bantam et Buitenzorg, Blume.

17. Appendicula Hasseltii. *Blume l. c.*

A. " caulibus simplicibus teretibus, foliis lato-linearibus retuso-mucronulatis, vaginis foliorum edentulis, labelli limbo erectiusculo crenulato."

Hab. in *Java,* calcareis provinciarum Bantam et Buitenzorg, Blume.

18. Appendicula longifolia. *Blume l. c.*

A. " caulibus simplicibus compressis, foliis lineari-lanceolatis retusis, floribus densè capitatis."

Hab. in *Java,* sylvis altioribus montium Salak, Pangurang, &c. Blume.

CXLVIII. CRYPTOGLOTTIS.

Cryptoglottis. *Blume Bijdr.* 296. *tabellen* 42.

Perianthium clausum. Sepala basi connata; lateralibus cum ungue columnæ in calcar longum basi didymum productis, supra medium inter se connatis. Labellum inclusum, unguiculatum, integerrimum, cum pede columnæ elasticè articulatum. Columna nana, in ovarium recumbens, rostello subulato erecto. Anthera ferè dorsalis, 2-locularis. Pollinia 4, clavata, inæqualia, sterilibus quibusdam intermixtis, caudiculâ tenui brevi, glandulâ hamatâ.——Herba epiphyta, pusilla, subramosa. Folia linearia, cuspidata. Pedunculi terminales, subsolitarii, pauciflori. Flores bracteolati, parvi, albidi.

Character ex Blume.

1. Cryptoglottis serpyllifolia. *Blume l. c.*

Hab. in *Java,* in arbores montium Seribu, Blume.

CXLIX. CERATOSTYLIS.

Ceratostylis. *Blume Bijdr.* 304. *tabellen* 56.

Perianthium clausum. Sepala basi connata; lateralibus basi productis calcar breve obtusum æmulantibus. Petala sepalo supremo subæqualia. Labellum subinclusum; ungue longo incurvo; limbo indiviso, concavo, crasso. Columna brevis, basi longè producta, libera. Anthera 2-locu-

laris; loculis 4-partitis. Pollinia 8, in glandulam sessilia.——Epiphytæ, subcaulescentes, ebulbæ. Pedunculi 1-flori, ad basin foliorum positi, paleis cincti.

Character ex Blume.

1. Ceratostylis graminea. *Blume l. c.*

C. " caulescens, foliis lineari-lanceolatis acuminatissimis, pedunculis solitariis geminisve subtomentosis, labello apice incrassato margine ciliato."

Hab. in *Java*, ad montem Salak, Blume.

2. Ceratostylis latifolia. *Blume l. c.*

C. " caulescens, foliis lanceolatis obtusis, pedunculis solitariis geminisve villosiusculis, labello intus lineis duabus pubescentibus notato."

Hab. in *Java*, in cacumen montis Gede, Blume.

3. Ceratostylis simplex. *Blume l. c.*

C. " caulibus simplicibus teretibus 1-phyllis, foliis lanceolatis retusis, pedunculis solitariis sepalisque glabris, labello superne cucullato."

Hab. in *Java*, in vicinitate cataractarum fluvii Tji-Kundul in montanis Gede, Blume.

4. Ceratostylis anceps. *Blume l. c.*

C. " caulibus simplicibus subfoliaceis 1-phyllis, foliis lanceolatis retusis, pedunculis 1-3 sepalisque exterioribus arachnoideo-pubescentibus."

Hab. in *Java*, in vicinitate cataractarum fluvii Tji-Kundul in montanis Gede, Blume.

5. Ceratostylis gracilis. *Blume l. c.*

C. " caulibus simplicibus teretibus 1-phyllis, foliis lineari-subulatis semiteretibus, pedunculis 1-4 ovariisque villosiusculis."

Hab. in *Java*, in montanis Seribu et Pantjar, Blume.

6. Ceratostylis subulata. *Blume l. c.*

C. " caulibus simplicibus teretibus 1-phyllis, foliis subulatis teretibus leviter canaliculatis, floribus confertis arachnoideo-pubescentibus."

Hab. in *Java*, in montanis Salak, Pantjar, &c. Blume.

Flores minimi, flavescentes; sepala lateralia exteriora in calcare didymo coalita.

CLI. EPHIPPIUM.

Ephippium § 2. *Blume Bijdr.* 308. *tabellen* 65.

Perianthium subringens, sepalis lateralibus latioribus cum ungue productâ columnæ connatis. Labellum parvum, sellæforme, integrum, cum basi productâ columnæ elasticè articulatum. Columna in ovarium recumbens, nana, anticè bicornuta. Anthera 2-locularis. Pollinia 2, bipartibilia, caudiculâ (ex icone) clavatâ.——Herbæ epiphytæ. Caules radiciformes. Folia solitaria, plerumque pseudobulbo insidentia, coriacea. Pedunculi ad basin pseudobulborum orti, basi vaginati, apice pauci-aut multi-flori. Flores subpedicellati, bracteati, purpurascentes.

Character ex Blume. Bolbophyllo valdè simile videtur, sed glandulâ maximâ differt. An rectè descriptum? Plures species, *Cirrhopetalo* fortè referendæ, sed olim omissæ, in supplemento nostro mox describentur.

1. EPHIPPIUM lepidum. *Blume l. c.*

E. "bulbis ovatis pentagonis, foliis lanceolatis obtusis emarginatis, floribus in pedunculo elongato ad apicem capitatis, sepalis lateralibus exterioribus cohærentibus reliquis valdè majoribus, dorsali interioribusque ciliolatis acuminatissimis."

Hab. in *Java*, in montanis Pantjar, supra arbores, Blume.

2. EPHIPPIUM cornutum. *Blume l. c. c. ic.*

E. "bulbis ovato-oblongis subtetragonis, foliis lanceolatis acutis, pedunculo brevi 1-floro, sepalis acutis, lateralibus exterioribus reliquis valdè latioribus, labello ad marginem infernè ciliato."

Hab. in *Java*, in sylvis elatis montis Salak, Blume.

CLI. CERATOCHILUS.

Ceratochilus. *Blume Bijdr.* 358. *tabellen* 25 (1825).——Omæa. *Id.* 359.

Perianthium patens. Sepala 2 lateralia labello supposita. Petala angustiora. Labellum parvum, sacco v. calcare compresso; cum columnâ connatum, fauce biglandulosum, limbo trifido integrove. Columna nana. Anthera bilocularis. Pollinia 2, globosa, biloba, caudiculâ filiformi, glandulâ hamatâ.——Herbæ pusillæ, epiphytæ. Caules simplices, v. subramosi. Folia disticha, crassa, linearia, subtriquetra. Flores pedunculati, solitarii.

Character ex Blume.

1. CERATOCHILUS biglandulosus. *Blume l. c.*

C. labelli calcare ventricoso laminâ subulatâ, caulibus simplicibus.

Hab. in *Java*, in sylvis elatioribus montium Gede, Salak, &c. Blume.

2. CERATOCHILUS micranthus.

C. labelli calcare compresso emarginato: laminæ trifidæ laciniâ medio erectâ incrassatâ, caulibus subramosis flexuosis.

Omæa micrantha. *Blume Bijdr.* 359.

Hab. in *Java*, in sylvis altioribus montis Salak, Blume.

Flores minuti, flavescentes.

3. ? CERATOCHILUS orchideus.

C. "caulescens simplex articulatus pendulus flexuosus, foliis distichis lanceolatis acutis, floribus axillaribus subsolitariis, labello bifido, cornu germine duplò breviore." *W.*

Epidendrum Orchideum. *Retz. Obs.* 6.48.
Limodorum Orchideum. *Willd. Sp. Pl.* 4. 126.

Hab. in arboribus *Indiæ Orientalis.*

CLII. ECHIOGLOSSUM.

Echioglossum. *Blume Bijdr.* 364. *tabellen* 28.

Perianthium explanatum, patens. Sepala et petala subæqualia. Labellum cornutum, trilobum; lobis lateralibus erectis, intermedio difformi utrinque calloso, in ligulam bifidam patentem producto; cornu dente clausum. Columna semiteres, aptera. Anthera bilocularis. Pollinia 2, bipartibilia, caudiculâ filiformi medio auriculatâ, glandulâ arcuatâ dilatatâ.—— Herba epiphyta, caulescens. Folia disticha, lineari-lanceolata, cuspidata, rigida. Spica oppositifolia pubescens.

Character ex Blume.

1. Echioglossum Javanicum. *Blume l. c.*

Hab. in *Java*, ad truncos arborum in monte Salak, Blume.

CLIII. SARCANTHUS.

Sarcanthus. *Lindl. Coll. Bot. t.* 39 B (1826.)

Perianthium explanatum. Sepala et petala subæqualia. Labellum breve calcaratum, trilobum, carnosum, cum columnâ articulatum; calcare intus ½biloculari. Columna erecta, semiteres. Anthera bilocularis. Pollinia 2, posticè lobata, caudiculâ glandulâque variis.——Herbæ epiphytæ caulescentes. Folia disticha, plana v. teretia. Racemi oppositifolii. Flores speciosi.

1. Sarcanthus paniculatus. *Illustr. of Orchideous Plants, t.* 9. *Genera.*

S. foliis longis loratis apice obliquè bilobis obtusis, spicis paniculatis, sepalis petalisque lineari-oblongis undulatis obtusiusculis, labelli calcare recto obtuso subemarginato in lamina bicorni medio callosa producto.

Aerides paniculatum. *Ker. in Bot. Reg. t.* 220.
Vanda paniculata. *R. Br. in Bot. Reg. fol.* 506.

Hab. in *China.*

Flores lutescentes, sepalis petalisque medio sanguineo bivittatis. Labellum luteum, laminæ cornubus albis, callo virescente.

2. Sarcanthus rostratus. *Lindl. Coll. Bot. t.* 39 B.

S. foliis lanceolatis acutis planis subrecurvis, spicâ simplici horizontali foliis subæquali, sepalis petalisque obovato-oblongis obtusis patentibus, labelli calcare recto obtuso in lamina incurva rostrata producto.

Hab. in *China*, (*v. v. c.*)

Sepala et petala luteo-viridia sanguineo marginata. Labellum violaceum. Rostellum rostratum.

3. Sarcanthus succisus. *Lindl. in Bot. Reg. t.* 1014.

S. foliis oblongis subundulatis præmorsis, spicâ simplici horizontali v. deflexâ foliis longiore, rachi ancipite, sepalis petalisque oblongis obtusis, labelli calcare apice didymo inflato in lamina ovata acuta carnosa producto.

Hab. in *China*, (*v. v. c.*)

Sepala et petala viridi-lutea medio purpurea. Labellum luteum, apice sanguineum.

4. SARCANTHUS teretifolius.

S. foliis teretibus, spicâ simplici horizontali foliis æquali, sepalis petalisque oblongis obtusis reflexis, labelli calcare recto obtuso intus pubescente in lamina ovata acuta carnosa producto, facie columnæ villosâ.

Vanda teretifolia. *Lindl. Coll. Bot. t.* 6.

Hab. in *China*. (*v. v. c.*)

Sepala et petala luteo-viridia, venis tribus sanguineis notata. Labellum album, margine faucis violaceo. Rostellum truncatum.

CLIV. PODOCHILUS.

Podochilus. *Blume Bijdr.* 295. *tabellen* 12.——Platysma. *Id.* 295. *tabellen* 43.——Apista. *Id.* 296.

Perianthium clausum. Sepala basi connata; lateralibus latioribus cum v. sub ungue producto columnæ connatis. Petala angustiora, libera. Labellum cum pede columnæ elasticè articulatum, integrum, unguiculatum. Columna in ovarium recumbens, clinandrio bicorni membranaceo. Anthera ferè dorsalis, 2-locularis. Pollinia 4, caudiculis duabus, membranaceis, convolutis.——Herbæ epiphytæ, caulescentes. Folia disticha, parva. Flores parvi, solitarii v. spicati, sæpiùs terminales.

1. PODOCHILUS lucescens. *Blume l. c. t.* 12.

P. foliis ovalibus emarginatis rigidis lucidis, petalis obtusis, labello sagittato basi bicalloso, rostello subulato, glandulâ sagittatâ.

Hab. in *Java*, in arbores montium Salak, Pantjar, Meggamedung, &c. Blume.

2. PODOCHILUS microphyllus. *Lindl. in Wall. Cat. no.* 7335.

P. foliis angustè ovatis acutis obliquè tortis, petalis obtusis, labello sagittato emarginato, rostello obtuso, glandulâ subrotundâ.

Hab. in *Penang* et *Sylhet*, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Omnes partes florum minutissimæ. Petala obovata, obtusa, sepalis minora. Columnæ cornua membranacea, truncata. Stigma subrotundum, margine membranaceo anticè truncato circumdatum.

3. PODOCHILUS cultratus. *Lindl. in Wall. Cat. no.* 7336.

P. foliis equitantibus imbricatis acutis cultratis, spicis brevissimis paucifloris.

Hab. in *Napalia* inferiore ad Hetounda, *Wallich*. (*hab. s. sp. defl. e Mus. Angl. Ind.*)

Florum fabrica vix nota; eadem videtur ac in præcedente.

4. PODOCHILUS falcatus.

P. foliis equitantibus imbricatis obtusis falcatis, spicis laxis terminalibus nutantibus, petalis subulatis, labello lanceolato integerrimo in ungue sigmoideo angustato.

Hab. in *Zeylona*, supra saxa in montem Nuera Ellia, *Macrae*. (*hab. s. sp.*)

5. Podochilus saxatilis.

P. foliis equitantibus retrorsum cultratis obtusis, spicis brevibus cernuis, petalis obtusiusculis, labello lanceolato integerrimo in ungue sigmoideo angustato.

Hab. in *Zeylona*, supra saxa in colles altiores ad Peradeniam, *Macrae*. (*hab. s. sp. et v. ic. pict.*)

Caules 2-3 poll. alti, carnosi, atrovirides. Folia parva, magis quam in cæteris speciebus carnosa. Flores parvi, flavi; labello in medio sanguineo.

6. Podochilus gracilis.

P. foliis linearibus distichis cuspidatis, caulibus repentibus, floribus solitariis sessilibus, petalis obtusiusculis, labello sagittato obovato mucronato, capsulâ glandulosâ.

Platysma gracile. *Blume Bijdr.* 295. *t.* 42.

Hab. in *Java*, in montanis Pantjar et Seribu, Blume.

7. Podochilus tenuis.

P. foliis distichis linearibus acuminatis, caule ramoso, spicis subterminalibus paucifloris, floribus minutissimis bracteolatis.

Apista tenuis. *Blume Bijdr.* 296.

Hab. in *Java*, in sylvis altioribus montium provinciarum Buitenzorg et Bantam, Blume.

Omnia Podochili (*lucescentis*), sed columnâ latâ, utrinque emarginatâ, loculis antheræ disjunctis massisque pollinis per paria pharetratis, emarginaturis columnæ utrinque pedicellis respondentibus. *Blume.*

CLV. ADENONCOS.

Adenoncos. *Blume Bijdr.* 381.

Sepala et petala erecta, subæqualia. Labellum concavum, carnosum, intus glanduloso-tumidum, erectum: limbo indiviso. Columna brevis, obtusa. Anthera semibilocularis. Pollinia 4, (an 2, bipartibilia?) subglobosa, compressiuscula, caudiculâ brevi, glandulâ peltatâ.——Herba epiphyta, inter minores. Caules simplices. Folia disticha, linearia, acuta, carnosa, suprà canaliculata. Pedunculi oppositifolii, solitarii, pauciflori. Flores sessiles virentes.

Character ex Blume.

1. Adenoncos virens. *Blume l. c.*

Hab. in *Java*, supra arbores in sylvis montis Pantjar, Blume.

CLVI. ŒCEOCLADES.

Œceoclades. *Lindl. in Bot. Reg. fol.* 1522.

Perianthium patens, v. ringens, v. connivens, subæquale, liberum, non secundum. Labellum liberum, sessile, cum columna articulatum, nudum v. basi bilamellatum, calcaratum; calcare curvo sæpè obconico, laminâ lobatâ cucullatâ, v. complicatâ, v. concavâ. Columna sæpè

elongata, semiteres. Anthera 2-locularis. Pollinia 2, posticè sulcata, caudiculâ angustâ, glandulâ minutâ.——Epiphytæ, acaules v. caulescentes, nunc pseudobolbosæ. Folia coriacea, aut rarò membranacea, nunquam plicata. Flores sæpiùs minuti.

This genus differs from Angræcum in its usually shorter spur and longer column, and especially in its lobed lip which is almost always cucullate. The flowers are either ringent as in *Œceoclades maculata*, or spread flat as in many others. Œceoclades will probably comprehend all the Eulophia-like epiphytes that have not a second perianthium and a crest at the bottom of the labellum; it is very near Eulophia, from which its coriaceous, not plaited leaves, distinguish it among other things.

1. Œceoclades tenera.

Œ. caulescens, foliis oblongis carnosis emarginatis, spicis 3-4-floris horizontalibus foliis brevioribus, sepalo supremo erecto galeato lateralibus labello suppositis æquali, petalis galeâ parallelis conformibus: omnibus basi valde discretis, labello sepalis breviore trilobo cucullato laciniis lateralibus erectis emarginatis truncatis intermediâ carnosâ trilobâ planâ basi bicallosâ, calcare brevi incurvo.

Hab. in *Zeylona*, supra frutices in sylvis montanis, *Macrae*. (*hab. s. sp. et v. ic. pict.*)

Textura omnium partium, præsertim florum, laxè cellulosa. Labellum cum col. nec articulatum nec connatum. Columna brevissima, lateribus inflexis callosis. Pollinia 2, globosa, posticè biloba, caudiculâ lineari elongatâ, retinaculo deltoideo. Flores luteo-fulvi apicibus sanguineis, labelli laminâ albâ.

2. Œceoclades paniculata.

Œ. caulescens, foliis oblongis apice bilobis erosis, paniculis lateralibus foliis duplò longioribus, floribus minutis, sepalo supremo acuto galeato lateralibus breviore, petalis sepalo supremo minoribus acutis, labello sinuato cordato apice longè acuminato, calcare brevi ventricoso.

Hab. in *India Orientali*, ad Gualpara, *Hamilton*; in *Sylhet*, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Flores extus discolores, quasi sphacelati, intus fulvi luteo marginati; labellum luteum.

3. Œceoclades flexuosa. *Lindl. in Wall. Cat. no.* 7333.

Œ. subacaulis, foliis lineari-loratis apice valdè obliquis subbilobis erosis, paniculis flexuosis erectis divaricatis, floribus minutis, sepalis petalisque obovato-oblongis, labello oblongo obtuso repando intùs piloso, calcare conico incurvo laminâ longiore: dentibus marginis 2 acutis.

Hab. in *India Orientali*, in Deltæ Gangeticæ arbores, nec non ad ripas fluminis Attran, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Petala et sepala intus flavo-rosea extus herbacea. Labellum album roseo pallidè fasciatum.

4. Œceoclades parviflora.

Œ. "caule brevissimo, foliis sæpiùs 4 lineari-lanceolatis acutis sessilibus, scapo gracili simplici, floribus parvulis, laciniis calycis brevibus basi coalitis, labello trifido: calcare ascendente." *A. R.*

Angræcum parviflorum. *Thouars. Orch. Afr. t.* 60. *Ach. Rich. Orch. Maurit. p.* 71.

Hab. in *Mauritio,* Thouars.

5. Œceoclades ? gracilis.

Œ. " caule brevissimo, foliis linearibus longissimis striatis apice bilobis basi subcarinatis striatis, floribus minimis in spica gracili longissima dispositis, calcare recurvo ovarii longitudine." *A. R.*

Angræcum gracile. *Thouars. Orch. Afr. t.* 77. *Ach. Richard. Orch. Maurit. p.* 74.
Aerobion gracile. *Spreng. Syst.* 3. 717.

Hab. in *Mauritio,* Thouars.

6. Œceoclades pusilla. *Lindl. in Wall. Cat. no.* 7332.

Œ. subacaulis, foliis obovato-oblongis apice æqualibus acutis bilobis racemis ascendentibus gracilibus brevioribus, floribus minutis, sepalis obovatis obtusis, petalis conformibus minoribus, labello hastato-triangulari, calcare infundibuliformi incurvo labello longiore.

Hab. supra ramulos arborum in sylvis *Sylhetensibus, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

An *Œ. Retzii* hujus loci, foliis delapsis?

7. Œceoclades Retzii.

Œ. " aphylla, subarticulata, fasciculata, cortici appressa, racemis simplicibus." W.

Epidendrum pusillum. *Retz. Obs.* 6. 49.
Limodorum pusillum. *Willd. Sp. Pl.* 4. 126.

Hab. in arboribus *Indiæ Orientalis,* Retz.

8. Œceoclades funalis.

Œ. " aphylla, radicans, pedunculo bifloro, limbo labelli bilobo, cornu longissimo subulato." S.

Epidendrum funale. *Swartz. Prodr.* 126.
Limodorum funale. *Id. Fl. Ind. Occ.* 3. 1521. *Willd. Sp. Pl.* 4. 127.

Hab. supra truncos vetustos in montibus *Jamaicæ,* Swartz.

Flores magni, albidi. Radices 2-3-pedales.

9. Œceoclades falcata.

Œ. caule simplici, foliis distichis linearibus canaliculatis acutis, floribus axillaribus solitariis longè pedunculatis, sepalis petalisque patentibus linearibus acutis, labello trilobo: lobo medio emarginato, calcare longissimo filiformi incurvo.

Limodorum falcatum. *Bot. Mag.* 2097. nec Willd.
Angræcum falcatum. *Lindl. in Coll. Bot.* 15.

Hab. in *China.*

The plant described by Thunberg in his Flora Japonica, under the name of Orchis falcata, and supposed to be this, has a scape and flowers in spikes; besides which it appears to be terrestrial. How then are we to consider it the same with this which has not one of these important characters?

10. Œceoclades maculata.

Œ. pseudobolbosa, foliis solitariis lanceolatis maculatis coriaceis, scapis radicalibus foliis longioribus, floribus ringentibus, labelli trilobi lobo intermedio rotundato emarginato, calcare recto obtuso laminâ basi breviter bilamellatâ breviore.

Angræcum maculatum. *Lindl. Coll. Bot. t.* 15. *Bot. Reg.* 618.
Geodorum pictum. *Link et Otto Abbild. t.* 14.
Aerobion maculatum. *Spreng. Syst.* 3. 718.
Angræcum monophyllum. *Ach. Rich. Orch. Maur.* 66. *t.* 9.

Hab. in *Brazilia,* nec non in *Africa æquinoctiali;* in *Mauritio,* Commerson. (*v. v. c.*)

Flores albo et roseo picti. Pollinia 2, triangularia, collateralia, in utraque facie integerrima, caudiculâ brevi glandulæ viscidæ adhærente. Species omninò anomala; an Cymbidio potius referenda? an sui generis?

CLVII. AERIDES.

Aerides. *Loureir. Cochinch.* 525.——Dendrocolla. *Blume Bijdr.* 286. *tabellen* 67.

Perianthium patens v. clausum. Sepala lateralia, basi sæpiùs obliqua, cum ungue producto columnæ connata. Labellum cum ungue columnæ articulatum, saccatum v. calcaratum, trilobum: lobis lateralibus nanis; limbo cucullato, aut subulato, aut abbreviato-tumido, aut subfornicato. Columna in ovarium recumbens, brevis, aptera. Anthera bilocularis. Pollinia 2, posticè sulcata; caudiculâ latâ v. filiformi, glandulâ peltatâ subrotundâ.——Herbæ epiphytæ caulescentes. Caules subsimplices, radicantes. Folia disticha, coriacea, aut subcarnosa. Flores racemosi, v. spicati.

§ I. Cuculla, Blume. *Spicæ bracteis carinatis sæpius carnosis instructæ. Labelli limbus cucullatus, rarius expansus.*

1. Aerides arachnites.

A. "foliis lato-linearibus retusis, sepalis longiter acuminatis, labello intus appendice ligulato instructo."

Dendrocolla arachnites. *Blume l. c.* 287.

Hab. in *Java,* ad pedem montium Salak et Seribu provinciæ Buitenzorg, Blume. Floret omni tempore.

2. Aerides testaceum.

A. foliis loratis acutis bilobis inter lobos cuspidatis, racemis strictis simplicibus multifloris foliis longioribus, sepalis petalisque obovato-oblongis obtusis, labelli infundibularis laciniis lateralibus erectis obtusis intermediâ lineari patente apice dilatatâ reniformi bilobâ dentatâ lineis duabus elevatis callosis in disco, calcare conico incurvo.

Hab. in *Zeylona,* supra arbores, *Macrae.* (*hab. s. sp. et. ic. pict.*)

Pedunculi maculati. Flores *Vandæ Roxburghi* paulo minores, pallidè testacei, maculâ violaceâ in medio labelli. Capsulæ clavatæ, hexagonæ.

3. Aerides Wightianum. *Lindl. in Wall. Cat. no.* 7320.

A. foliis loratis apice obliquis obtusis bilobis inter lobos cuspidatis, racemis strictis simplicibus multifloris foliis longioribus, sepalis petalisque ovalibus anticis majoribus, labelli infundibularis laciniis lateralibus pedi columnæ adnatis obtusis intermediâ subcuneata apice trilobâ rotundatâ: disco lineis pluribus elevatis crispis cristato, calcare brevi conico.

Hab. in *India Orientali,* prope Madras, *Wight.* (*hab. s. sp. e Mus. Angl. Ind.*)

Capsulæ clavatæ, alis sex brevibus.

4. Aerides odoratum. *Lour. Fl. Cochinch.* 525.

A. foliis flaccidis apice obtusis obliquis, racemis pendulis multifloris foliis longioribus, labelli cucullati infundibularis laciniis lateralibus erectis cuneatis rotundatis intermediâ ovatâ acutâ inflexâ, calcare conico incurvo.

A. odoratum. *R. Brown in Hort. Kew.* 5. 212.
A. cornutum. *Roxb. Mss. Bot. Reg. t.* 1485.

Hab. supra arbores in *India Orientali,* prope Daccam et Noakote, in Sylhet, Chittagong et Moalmyne, *Wallich*; in sylvis *Chinæ* et *Cochinchinæ,* Loureiro.

Flores candidi, apicibus roseis, spectabiles, odoratissimi, ad cameras ornandas aptissimi.

5. Aerides affine. *Wallich. Cat. no.* 7316.

A. foliis canaliculatis subrecurvis retusis mucronatis, racemis cylindraceis multifloris erectis foliis æqualibus, sepalis oblongis obtusis, petalis conformibus majoribus, labello cæteris majore ovato membranaceo obsoletè trilobo, ungue saccato geniculato: calcare parvo cornuto laminæ supposito.

Epidendrum geniculatum. *Hamilt. Mss.*

Hab. in montes meridionales *Indiæ Orientalis,* pone Sheopore, in Sylhet et Napalia, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Flores pulcherrimi, rosei, maculis quibusdam atrioribus.

6. Aerides crispum. *Lindl. in Wall. Cat. no.* 7319.

A. foliis planis apice obtusis obliquis, racemis ...., sepalis petalisque subæqualibus obtusis, labello cæteris majore ovato membranaceo margine crispo basi bicalloso: ungue recto; calcare parvo cornuto obtuso laminæ supposito.

Hab. in *India Orientali,* prope Courtallum, *Wallich.* (*hab. flores et folia spont. e Mus. Angl. Ind.*)

7. Aerides tæniale.

A. subacaule, radicibus compressis repentibus foliaceis, foliis ovalibus acutis membranaceis radicibus multò brevioribus, racemis erectis 5-6-floris foliis brevioribus, sepalis petalisque ovalibus acutis anticis duplò latioribus basi labelli adnatis, labelli infundibularis laciniis lateralibus pedi columnæ adnatis erectis apice obtusis denticulatis intermediâ lineari-oblongâ integerrimâ acutâ, calcare brevi conico.

Hab. in *Napalia,* inter Jungermannias, *Wallich.* (*hab. s. sp. comm. cel. Rudge.*)

Flores inter minores. Labellum violaceum. Herba facie *Chiloschistæ usneoides.* Radices verosimiliter foliorum vices gerunt.

8. Aerides obtusum.

A. " caule compresso, foliis lineari-lanceolatis emarginatis cum mucrone intermedio sepalis obtusiusculis, labello interne villoso."

Dendrocolla obtusa. *Blume l. c.* 287.

Hab. in *Java,* sylvis altioribus Salak, Blume.

9. Aerides amplexicaule.

A. " foliis cordatis amplexicaulibus, sepalis oblongis acutis, labello interne muricato."

Dendrocolla amplexicaulis. *Blume l. c.* 288.

Hab. in *Java,* in montanis Salak et in calcareis prope Kuripan, Blume.

10. Aerides purpurascens.

A. " caulibus compressiusculis, foliis lanceolatis emarginatis purpurascentibus, sepalis acutis."

Dendrocolla purpurascens. *Blume l. c.* 288.

Hab. in *Java,* sylvis humidis montium Pangurangu et Gede, Blume.

Flores flavi.

11. Aerides acuminatissimum.

A. " caulibus subramosis, foliis lineari-lanceolatis emarginato-mucronatis (carnosis), sepalis et labelli limbo longiter acuminatis.

Dendrocolla acuminatissima. *Blume l. c.* 288.

Hab. in *Java,* sylvis montanis Pantjar, Blume.

§ II. Tubera Blume. *Spicæ bracteis coalitis et scrobiculatis munitæ. Labelli limbus, callosus, abbreviatus.*

12. Aerides compressum.

A. " foliis lineari-lanceolatis apice bicuspidatis (carnosis), pedunculo compresso bracteis nempe basi ad apicem carnosis carinatis connatis tecto."

Dendrocolla compressa. *Blume l. c.* 289.

Hab. in *Java,* sylvis humidioribus provinciarum Buitenzorg et Bantam, Blume.

13. Aerides tessellatum. *Wight in Wall. Cat. no.* 7318.

A. foliis loratis apice truncatis rotundatis subæquilateris, racemis paucifloris horizontalibus foliis brevioribus, sepalis petalisque patentibus unguiculatis obovatis obtusis crispis tessellatis, labelli calcare recto conico laminâ ovatâ convexâ dentibus lateralibus erectis acuminatis columnæ longitudine.

Epidendrum tessellatum. *Roxb. Corom.* 1. *t.* 42.
Cymbidium tessellatum. *Swartz. Nov. Act. Ups.* 6. 75. *Willd. Sp. Pl.* 4. 102.

Hab. in *India Orientali,* supra truncos ramosque arborum in montes Circar, *Roxburgh.* (*hab. s. sp. e Mus. Angl. Ind.*)

Flores magni, viridi-lutei, speciosi.

14. Aerides cylindricum. *Lindl. in Wall. Cat. no.* 7317.

A. foliis teretibus, racemis brevibus subbifloris, sepalis ovatis obtusis, petalis oblongis latioribus, labelli cucullati infundibularis laciniis lateralibus oblongis obtusis intermediæ carnosæ ovatæ obtusæ adnatis, calcare recto conico.

? Epidendrum subulatum. *Retz. Obs.* 6. 50.
? Limodorum subulatum. *Willd. Sp. Pl.* 4. 126.

Hab. in *India Orientali, Wallich. Wight.* (*hab. s. sp. e Mus. Angl. Ind.*)

15. Aerides teres.

A. " foliis lato-linearibus basi angustioribus apice obtuso-emarginatis, pedunculo elongato tereti bracteis scrobiculatis tecto."

Dendrocolla teres. *Blume l. c.* 289.

Hab. in *Java,* montanis provinciæ Buitenzorg, Blume.

Sepala oblonga, obtusa, inferne angustiora. Labelli limbus abbreviatus, callosus. Foliis latioribus rigidioribus obtusissimis et pedunculo tereti ab *A. compresso* solummodo diversum. *Bl.*

16. Aerides pusillum.

A. " foliis lato-lanceolatis, pedunculo versus apicem bracteis paucis obsesso, sepalis acutiusculis, labelli auriculis profundè bifidis."

Dendrocolla appendiculata. *Blume l. c.* 289.

Hab. in *Java,* ad arbores in monticulis calcareis prope Kuripan, Blume.

Planta pusilla. Flores miniati.

17. Aerides emarginatum.

A. " foliis lineari-lanceolatis obliquè emarginatis, pedunculis confertis hirsutis versus apicem paucifloris, sepalis acutis, labelli auriculis emarginatis."

Dendrocolla emarginata. *Blume l. c.* 290.

Hab. in *Java,* sylvis montanis Pantjar et Meggamedong, Blume.

Flores flavi, labello candido intus maculis 2 flavescentibus.

18. Aerides pallidum.

A. " foliis lineari-lanceolatis obliquè retusis, pedunculo superne bracteis paucis instructo, sepalis obtusis, labello extus cum tuberculo."

Dendrocolla pallida. *Blume l. c.* 290.

Hab. in *Java,* sylvis opacis Nusæ Kambangæ insulæ, Blume.

19. Aerides spurium.

A. " caulibus elongato-clavatis superne tetragonis diphyllis (foliorum privatione ?), foliis lanceolatis, floribus e scrobiculis lateralibus caulis erumpentibus."

Dendrocolla spuria. *Blume l. c.* 290.

Hab. in *Java,* vallibus montium Seribu, Blume.

An hujus generis et sectionis ? Blume.

20. Aerides minimum.

A. " caulibus simplicibus (vix semipollicaribus), foliis paucis lanceolatis acutiusculis, spicis brevibus ad apicem paucifloris, sepalis carinatis obtusiusculis, labelli limbo obliterato."

Dendrocolla minima. *Blume l. c.* 290.

Hab. in *Java,* in montanis Pantjar, Blume.

§ III. Fornicaria, Blume. *Spicæ supernè bracteis subulatis congestis præditæ, labelli limbo abbreviato fornicato.*

21. Aerides angustifolium.

A. " foliis carnosis lineari-lanceolatis canaliculatis obtusis emarginatis, pedunculis brevibus paucifloris."

Dendrocolla angustifolia. *Blume l. c.* 291.

Hab. in *Java,* in montosis Salak et Seribu, Blume.

22. Aerides subulatum.

A. " foliis carnosis lineari-lanceolatis canaliculatis apice contractis subulatis, pedunculis brevibus paucifloris."

Dendrocolla subulata. *Blume l. c.* 291.

Hab. in *Java,* in montosis Salak et Seribu, Blume.

A. angustifolio valdè affine, floribus etiam aurantiacis, *Bl.*

23. AERIDES hystrix.

A. "foliis linearibus basi angustioribus apice retusis, pedunculis elongatis apice congesto-multifloris."

Dendrocolla hystrix. *Blume l. c.* 291.

Hab. in *Java,* ad arbores circa Buitenzorg, Blume.

Bracteæ subulatæ. Labelli limbus fornicatus, pubescens, internè cum appendiculo lamellato.

24. AERIDES anceps.

A. "caulibus ancipitibus, foliis lanceolatis mucronulatis, pedunculis filiformibus apice paucifloris."

Dendrocolla anceps. *Blume l. c.* 292.

Hab. in *Java,* in elatis Salak, Blume.

Flores albido-flavescentes; labelli limbo fornicato, hirsuto.

§ IV. PILEARIA. *Labellum pileiforme; appendiculâ tabulari carnosâ intùs a dorso projiciente.*

25. AERIDES appendiculatum. *Wall. Cat. no.* 7315.

A. foliis teretibus racemo flexuoso multò brevioribus, sepalis petalisque lineari-oblongis obtusis reflexis anticis duplò latioribus, columnâ elongatâ basi excavatâ pubescente, labelli pileati obtusi trilobi lobis omnibus brevibus intermedio complicato basi unicorni pubescente, callo magno tabulari a dorso calcaris projiciente.

Hab. in *Tavoy, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

An genus proprium? Labellum omnino pileum conicum refert dorso intus appendiculatum, nec calcar adest ullum nisi apex pilei. Columna petalis ferè longitudine æqualis. Anthera et pollinia omnino *Aeridis.*

§ V. ORNITHOCHILUS, Wallich. *Labelli lamina biloba, dilatata, unguiculata.*

26. AERIDES difforme. *Wall. Mss.*

A. acaule, foliis oblongis carnosis planis acutis apice levissimè obliquè bilobis, racemis strictis simplicibus foliorum longitudine, sepalis oblongis obtusis lateralibus majoribus obliquis, petalis linearibus obtusis, labelli cucullati laminâ maximâ bilobâ unguiculatâ: lobis rotundatis fimbriatis, calcare conico arcuato.

Ornithochilus fuscus. *Wallich. Ic.*

Hab. supra arboribus *Napaliæ, Wallich.* (*v. ic.*)

Folia 6 poll. longa, 2¼ lata. Flores fusco-lutei, purpureo vittati, odorati, inter minores. "Labellum posticum, nitidum, incumbens, ungue cum basi columnæ articulato; calcare cylindrico, assurgente, viridescente, laminâ breviore, fauce clausâ villis copiosis albis; lamina lata, retusa, reniformis cum cuspidulâ intermediâ, subunguiculata, margine laciniato-fimbriata, lobis divaricatis verticalibus; disco cristâ elongato-acutâ longitudinali. Columna recta, crassa, purpurascens, brevissima, apice acuta, posticè hamosa, antheram affigens. Anthera terminalis, obliqua, obtusa, posticè producta, bilocularis; pollinia duo, globosa, dura, posticè profundè biloba, membranâ propriâ apici columnæ affixa. Stigma obliquum, magnum, infra apicem columnæ." *Wall. Mss.*

CLVIII. SCHŒNORCHIS.

Schœnorchis. *Blume Bijdr.* 361. *tabellen* 23. *Reinwardt in Bot. Zeit.* 1825. 2. 4.

Perianthium clausum. Sepala et petala labello multò minora. Labellum calcaratum, v. saccatum, basi columnæ accretum, limbo obscurè trilobo. Columna semiteres, aptera, basi bicornis, rostello cornuto. Anthera semibilocularis, cornuta. Pollinia 2, bipartibilia, globosa, caudiculâ filiformi, glandulâ parvâ hamatâ.——Herbæ epiphytæ, caulescentes. Caules subramosi, teretes. Folia linearia v. subulata, carnosa. Spicæ simplices v. ramosæ.

Character ex Blume.

§ I. *Labellum basi calcaratum ; limbus patens. Columna mediocris.* Bl.

1. Schœnorchis juncifolia. *Blume l. c. Reinw. l. c.*

S. " foliis subulatis basi canaliculatis, spicis intrafoliaceis simplicibus, labelli calcare incurvo."

Hab. in *Java*, in sylvis montanis, Blume.

§ II. *Labellum basi saccatum ; limbus erectus conicus. Columna brevissima.* Bl.

2. Schœnorchis micrantha. *Blume l. c. Reinw. l. c.*

S. " foliis subulatis basi canaliculatis, spicis simplicibus axillaribus."

Hab. in *Java*, in sylvis montanis Gede, Salak, &c. Blume.

3. Schœnorchis paniculata. *Blume l. c.*

S. " foliis linearibus canaliculatis, spicis paniculatis axillaribus."

Hab. in *Java*, circa Buitenzorg et in montanis Salak et Seribu, Blume.

CLIX. AERANTHUS.

Aeranthus. *Lindl. in Bot. Reg. t.* 817. (Aug. 1824.)

Perianthium connivens. Sepala acuminata ; lateralia majora, basi obliqua, ungui producto columnæ adnatæ. Petala paulò minora. Labellum integrum, cucullatum, calcaratum, petalis conforme, cum ungue columnæ articulatum. Columna brevis, in ovarium recumbens, apice alata. Anthera bilocularis. Pollinia 2, globosa, hinc perforata, caudiculâ nullâ, glandulis duabus !——Herbæ epiphytæ, caulescentes. Folia disticha, emarginata. Scapi radicales, squamosi, uniflori.

1. Aeranthus grandiflora. *Lindl. l. c.*

A. pedunculis debilibus unifloris, columnæ pede longius producto, calcare abbreviato.

? Dendrobium arachnitis. *Thouars. Orch. Afr. t.* 88.
? Aeranthus arachnitis. *Lindl. l. c.*

Hab. in *Madagascaria*, Thouars, *Forbes*. (*v. v. c.*)

Subacaulis. Folia undulata, tenera, apice altè obliquè biloba. Pedunculi squamæ angustæ, sphacelatæ, acutæ, vaginantes. Sepala et petala viridia, apice lutescentia, labellum album apice lutescens ; omnia acuminata apice canaliculata.

I formerly thought Du Petit Thouars's *Dendrobium arachnitis* distinct from this, but a better acquaintance with the habits of tropical Orchideæ has now induced me to cancel that supposed species.

2. Aeranthus sesquipedalis. *Lindl. l. c.*

A. pedunculis rigidis bifloris, calcare longissimo filiformi.

Angræcum sesquipedale. *Thouars. Orch. Afr. tt.* 66 *et* 67.

Hab. in *Madagascaria,* Thouars.

Flores maximi in genere, albi.

CLX. CRYPTOPUS.

Cryptopus. *Lindl. in Bot. Reg.* 817. *(Aug.* 1824*).*——Beclardia. *Ach. Rich. Orch. Maurit.* 78. (1828).

Perianthium explanatum. Sepala libera, spatulata, æqualia. Petala paulo majora, unguiculata, lobata. Labellum calcaratum, basi columnæ connatum, 4-partitum. Columna erecta, brevis, teres. Anthera 2-locularis. Pollinia 2, obovata, posticè sulcata, caudiculis 2, apice excavatis, glandulis 2 dimidiatis villosis.——Herba epiphyta, caulescens. Folia disticha, coriacea. Paniculæ multifloræ, laterales. Flores speciosi.

At the time when I first distinguished this genus I knew it only from the figures and account of Du Petit Thouars; I consequently took his characters upon trust. At a subsequent period having procured the plant from Mr. Prescott, I found that the pollen masses and the caudicula were not as Du Petit Thouars had represented them, but as I have now described them. At the very period of sending this to press Dr. Hooker's excellent Botanical Miscellany has reached me, in which I have the satisfaction to find nearly the same structure represented as I had sketched in my herbarium and added to my notes some years since.

1. Cryptopus elata. *Lindl. l. c. Hooker in Bot. Misc. n. s.* 1. *p.* 45. *t.* 115.

Angræcum elatum. *Thouars. Orch. tt.* 79. 80.
Beclardia alata. *A. Rich. Orch. Maur. p.* 78. *t.* 11. *f.* 3.
Limodorum dipterum. *Tausch. in Sieber. Herb. Maur. no.* 43.

Hab. in insulis *Madagascaria, Mauritio, Borbonia,* Thouars, *Sieber.* (*hab. s. sp. comm. cel. Prescott.*)

CLXI. ŒONIA.

Œonia. *Lindl. in Bot. Reg.* 817. (Aug. 1824.)

Perianthium explanatum, petalis sepalisque subæqualibus, liberis. Labellum sessile, cucullatum, 3-lobum, horizontale, calcaratum. Columna nana, erecta. Anthera bilocularis. Pollinia 2, posticè 2-loba, caudiculâ nullâ, glandulis duabus!——Herbæ epiphytæ, caulescentes. Folia coriacea, disticha. Spicæ oppositifoliæ, multifloræ. Flores speciosi.

Character ex Thouarsio et Ach. Richardio.

1. Œonia Auberti. *Lindl. l. c.*

Œ. longè caulescens, foliis ovalibus acutis, labello cucullato cuneato bilobo cuspide intermedio obsoleto, calcare brevi conico.

Epidendrum volucre. *Thouars. Orch. t.* 81.

Hab. in *Madagascaria,* Thouars.

2. Œonia macrostachya.

Œ. foliis loratis canaliculatis obtusis obliquè bilobis, labello cucullato cuneato sublacero bilobo cuspide intermedio obsoleto, calcare conico medio constricto.

Epidendrum macrostachys. *Thouars. Orch. t.* 83.
Beclardia macrostachya. *A. Rich. Orch. Maurit. p.* 79. *t.* 11. *f.* 2.

Hab. in *Borbonia* et *Mauritio,* Thouars, Neraud.

3. Œonia brachystachya.

Œ. subacaulis, foliis loratis apice obtusis leviter obliquè emarginatis, racemo simplici paucifloro.

Epidendrum brachystachyum. *Thouars. Orch. t.* 84.
Beclardia brachystachya. *A. Richard. Orch. Maur. p.* 80.

Hab. in *Mauritio,* Thouars.

CLXII. ANGRÆCUM.

Angræcum. *Pet. Thouars Orch. Afr. passim.*——Aerobion. *Spreng. Syst.* 3. 716.

Perianthium patens. Sepala et petala subæqualia, libera. Labellum sessile, cum basi columnæ continuum, carnosum, indivisum, petalis multò latius; calcare recto cornuto, sæpiùs subcylindraceo, perianthio multò longiore, rarò obconico. Columna nana, subteres, rarò elongata, semiteres. Anthera 2-locularis, truncata. Pollinia 2, bipartibilia, caudiculâ brevi angustâ, glandulâ triangulari.——Epiphytæ, caulescentes. Folia coriacea, ligulata, apice obliqua. Flores solitarii v. racemosi, albi, nunc citrini, v. herbacei.

I am very slightly acquainted with the species of this genus, which requires a careful revision by some one in possession of the requisite materials. As it is now limited, it seems to be perfectly natural; with the exception of the American species which perhaps do not belong to it.

1. Angræcum eburneum. *Thouars. Orch. Afr. t.* 65.

A. caule simplici, foliis coriaceis lucidis apice obliquis 7-striatis, spicis multifloris secundis, labello cordato subrotundo cuspidato basi jugo elevato cristato, calcare sepalo supremo parallelo et dimidio longiore, ovario scabro.

Limodorum eburneum. "*Bory Voyage* 1. 359. *t.* 19." *Willd. Sp. Pl.* 4. 125.
Angræcum eburneum. *Ach. Rich. Orch. Maur. p.* 71. *Lindl. in Bot. Reg. t.* 1522.

Hab. in insulis *Borbonia,* Thouars *Madagascaria, Forbes.* (*v. v. c.*)

2. Angræcum superbum. *Thouars. Orch. Afr. tt.* 62, 63, 64.

Aerobion superbum. *Spreng. l. c.*

Hab. in *Madagascaria,* Thouars.

Mera videtur varietas præcedentis, labello magis quadrato, nec aliter quantum video, diversa.

3. Angræcum crassum. *Thouars. Orch. Afr. tt.* 70 *et* 71.

A. foliis loratis apice obtusis obliquè bilobis, racemis secundis horizontalibus, sepalis petalisque minoribus acutis, labello ovato, calcare pendulo ovario breviore.

Aerobion crassum. *Spreng. l. c.*

Hab. in *Madagascaria,* Thouars.

4. Angræcum palmiforme. *Thouars. Orch. Afr. tt.* 68, 69.

A. "caule erecto tereti basi nudo, foliis caulem coronantibus elliptico-oblongis bilobis obtusis, floribus magnis, laciniis patulis, labello concavo lanceolato acutissimo, calcare ascendente brevissimo." *Ach. Rich. Orch. Maur.* 72. *t.* 10. *no.* 1.

Aerobion palmiforme. *Spreng. l. c.*

Hab. in insula *Borbonia,* Thouars.

Caulis 2-pedalis. Flores albi.

5. Angræcum gladiifolium. *Thouars. Orch. Afr. t.* 53.

A. "foliis lanceolatis acutis distantibus, labello lanceolato acuto plano, calcare pedunculo subtriunciali paulò longiore." *Ach. Rich. Orch. Maur. p.* 69.

Orchis Mauritiana. *Poir. Dict.* 4. 601. see A. Rich.
Aerobion gladiifolium. *Spreng. l. c.*

Hab. in *Borbonia* et *Mauritio,* Thouars, Commerson, &c. (*hab. s. sp. comm. cel. Bouton.*)

6. Angræcum fragrans. *Thouars. Orch. Afr. t.* 54. *Ach. Rich. l. c.* 69.

A. foliis loratis angustis obtusis obliquè bilobis, petalis angustissimis decurvis, labello ovali-lanceolato, calcare filiformi pendulo pedunculo dimidio breviore.

Aerobion fragrans. *Spreng. l. c.*
β A. recurvum. *Thouars. l. c. t.* 56.
A. rectum. *Idem t.* 55. *Ach. Rich. Orch. Maur.* 70.
Aerobion recurvum *et* rectum. *Spreng. l. c.*

Hab. in *Borbonia,* Thouars.

Folia lòco Theæ Borboniæ indigenis utuntur, sub nomine *faam* seu *fahen.* Ach. Rich. *A. recurvum* calcare longiore, foliisque longioribus tantum differre videtur; verosimiliter mera est varietas.

7. Angræcum filicornu. *Thouars. Orch. Afr. t.* 52. *Ach. Rich. l. c.* 68.

A. foliis linearibus obtusis emarginatis, sepalis petalisque ovato-lanceolatis patentibus, labello ovato-lanceolato, calcare longissimo filiformi.

Aerobion filicornu. *Spreng. l. c.*

Hab. in *Borbonia,* Thouars.

8. Angræcum expansum. *Thouars. Orch. Afr. t.* 57. *Ach. Rich. l. c.* 70.

A. foliis lineari-loratis obliquè bilobis, sepalis petalisque patentissimis lineari-lanceolatis acuminatis, labello ovato acuminato, calcare filiformi ascendente triplò longiore.

Aerobion expansum. *Spreng. l. c.*

Hab. in *Mauritio* et *Borbonia,* Thouars.

9. Angræcum implicatum. *Thouars. Orch. Afr. t.* 58.

A. foliis brevibus oblongis obtusis obliquè bilobis, sepalo supremo labelloque ovatis acuminatis cæteris partibus paulò majoribus, calcare longissimo filiformi.

Aerobion implicatum. *Spreng. l. c.*

Hab. in *Madagascaria,* Thouars.

† 10. ANGRÆCUM carpophorum. *Thouars. Orch. Afr. t.* 76.

Hab. in *Mauritio,* Thouars.

Subacaule. Folia lorata, obtusa, obliquè biloba. Racemi erecti, pauciflori. Flores parvi. Calcar filiforme, fructu 3-angulari et 3-costato nunc longius nunc brevius.

11. ANGRÆCUM triquetrum. *Thouars. Orch. Afr. t.* 49. *Ach. Rich. l. c.* 67.

A. subacaule, foliis lineari-loratis apice obtusis bilobis, pedunculis subradicalibus unifloris, sepalis petalisque angustis acuminatis, labello concavo acuto calcare dependente longiore, fructu obovato triquetro.

Aerobion triquetrum. *Spreng. l. c.*

Hab. in *Mauritio,* Thouars.

12. ANGRÆCUM inapertum. *Thouars. Orch. Afr. t.* 50. *Ach. Rich. l. c.* 67.

A. subacaule, foliis lineari-lanceolatis acuminatis, sepalis petalis labelloque acutis, calcare incurvo obtuso.

Aerobion inapertum. *Spreng. l. c.*

Hab. in *Mauritio* et *Borbonia,* Thouars.

13. ANGRÆCUM cucullatum. *Thouars. Orch. Afr. t.* 48.

A. " pusillum, foliis approximatis elliptico-angustis obtusis emarginatis, laciniis exterioribus calycis æqualibus patulis, labello cucullato subintegro orbiculato obtuso." *Ach. Rich. l. c.* 67.

Aerobion cucullatum. *Spreng. l. c.*

Hab. in *Mauritio* et *Borbonia,* Thouars.

Parva species, supra corticem arborum vegetans, calcare infundibulari obtuso labelloque magno orbiculato in genere insignis.——An potius *Œceocladeos* species ?

14. ANGRÆCUM pectinatum. *Thouars. Orch. Afr. t.* 51. *Ach. Rich. l. c.* 68. *t.* 10. *n.* 5.

A. " caule repente, ramis adscendentibus foliosis, foliis numerosis lineari-oblongis distichis approximatis carnosis obtusis, floribus axillaribus solitariis subsessilibus, sepalis labelloque patentibus oblongis (obtusis) subæqualibus, cornu rectiusculo ovario breviore." *Hooker. in Bot. Misc. n. s.* 1. 47. *t.* 116.

Aerobion pectinatum. *Spreng. l. c.*

Hab. in *Mauritio* et *Borbonia,* Thouars, *Boier,* aliique. (*hab. s. sp. comm. cel. Hooker.*)

15. ANGRÆCUM caulescens. *Thouars. Orch. Afr. t.* 75. *Ach Rich. l. c.* 73. , *t.* 10. *no.* 3.

A. " caule brevi, foliis paucis lato-linearibus distichis coriaceis, pedunculis elongatis paucifloris, sepalis oblongo-ovatis patentibus subæqualibus, labello cochleato acuminatissimo (acuminato), cornu incurvato (clavato) ovarium contortum subæquante." *Hooker. in Bot. Misc. n. s.* 1. 48. *t.* 117.

Aerobion caulescens. *Spreng. l. c.*

Hab. in *Mauritio,* Thouars, *Telfair.* (*hab. s. sp. comm. cel. Hooker.*)

16. ANGRÆCUM multiflorum. *Thouars. Orch. Afr. t.* 74. *Ach. Rich. l. c.* 73

A. caulescens, ramulosum, foliis brevibus loratis obtusis obliquè bilobis

racemis subcorymbosis axillaribus foliis brevioribus, sepalis ovatis acutis, petalis conformibus minoribus, labello ovato acuto calcare horizontali incurvo obtuso æquali.

Aerobion multiflorum. *Spreng. l. c.*

Hab. in *Borbonia,* Thouars.

17. Angræcum calceolus. *Thouars. Orch. Afr. t.* 78. *Ach. Rich. l. c.* 75. *t.* 10. *n.* 4.

A. subacaule, foliis loratis obtusis bilobis valdè obliquis, floribus paniculatis, sepalis petalisque acuminatissimis, labello concavo acuminato calcare recto clavato horizontali duplò breviore.

Aerobion calceolus. *Spreng. l. c.*

Hab. in *Borbonia,* Commerson, *Mauritio,* Thouars.

18. Angræcum capense.

A. foliis radicalibus equitantibus subensiformibus obtusiusculis digitalibus, scapis flexuosis erectis digitalibus spithamæisve, floribus secundis spicatis, sepalis lanceolatis apice recurvis lateralibus hinc obtusè unidentatis, petalis brevioribus et angustioribus, labello lanceolato acuto basi bicalloso, calcare filiformi obtuso pollicari.

Epidendrum capense. *Linn. suppl.* 407.
Limodorum longicornu. *Swartz. in Schrad. Diar.* 1799. *p.* 230. *Willd. Sp. Pl.* 4. 125. *Thunb. Flora Cap.* 1. 73.

Hab. ad *Cap. B. Spei,* in truncos arborum, Thunberg.

Char. ex Thunb.; nusquam inveni.

19. Angræcum filiforme.

A. "aphyllum, radicans, pedunculis subtrifloris, labello ovato, cornu brevissimo apice capitato." *S.*

Epidendrum filiforme. *Swartz. Prodr.* 126.
Limodorum filiforme. *Swartz. Fl. Ind. Occ.* 3, 1523. *Willd. Sp. Pl.* 4. 127.

Hab. in arborum ramos *Hispaniolæ,* Swartz.

Flores minuti, sordidè lutei.

CLXIII. AGROSTOPHYLLUM.

Agrostophyllum. *Blume Bijdr.* 368. *tabellen* 53.

Perianthium explanatum. Sepala lata, æqualia, lateralibus labello suppositis. Petala linearia. Labellum cum basi columnæ connatum, saccatum, medio constrictum, limbo truncato indiviso. Columna semiteres, erecta. Anthera 2-locularis: loculis bipartitis. Pollinia 8, elongata, cuneata, sessilia.——Epiphyta, caulescens. Folia linearia, acuminata. Flores capitati, terminales, bracteis paleaceis cincti.

Character ex Blume.

1. Agrostophyllum Javanicum. *Blume l. c.*

Hab. in *Java,* in sylvis montanis provinciarum Buitenzorg et Bantam, Blume.

CLXIV. CALANTHE.

Calanthe. *R. Brown in Bot. Reg.* 578. *absque charact.* (*Oct.* 1821).——Centrosis. *Thouars. Orch. Afr.*——Amblyglottis. *Blume Bijdr.* 370. *tabellen* 64.

Perianthium explanatum, liberum, v. sepalis lateralibus labello paullulùm adnatis, subæquale. Labellum cum columna connatum, lobatum v. integrum, calcaratum v. muticum, disco lamellatum v. tuberculatum. Columna brevis, rostello sæpius rostrato. Pollinia 8, basi valdè attenuata, quaternatim glandulæ bipartibili adhærentia.——Terrestres, scapis erectis multifloris. Folia lata, plicata. Flores albi, aut lilacini, rarò lutei.

1. Calanthe veratrifolia. *R. Br. in Bot. Reg. t.* 720.

C. scapo stricto foliis oblongis acutis longiore, bracteis oblongis concavis, racemis densis multifloris, labello 4-lobo basi sulcato et glanduloso, calcare filiformi pendulo labello paulò longiore.

Flos triplicatus. *Rumph. Amb.* 6. *t.* 52. *f.* 2.
Orchis triplicata. *Willimet. in Ust. Ann.* 18. *p.* 52.
Limodorum veratrifolium. *Willd. Sp. Pl.* 4. 122.
? Amblyglottis flava. *Blume Bijdr.* 370. *t.* 64.

Hab. in insulis *Archipelagi Indici; Java,* Blume, *Zeylona, Macrae.* (*hab. s. sp. et v. v. c.*)

Flores nivei. Varietatem habeo e *Zeylona,* triplo minorem, sepalis conniventibus, labello olivaceo medio sanguineo, et bracteis minoribus. Nescio an diversa sit species.

2. Calanthe purpurea.

C. scapo erecto foliis latis oblongis petiolatis acuminatis longiore, racemis laxis multifloris, labelli trilobi lobis lateralibus nanis rotundatis patentibus intermedio angusto cuneato divergenti-bilobo, calcare ovario vix breviore.

Hab. in *Zeylona,* in sylvis Peradeniæ, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Flores pallidè purpurei; labello apice atropurpureo.

An mera varietas *C. masucæ?* v. *C. veratrifoliæ?*

3. Calanthe masuca. *Lindl. in Wall. Cat. no.* 7337.

C. scapo erecto foliis latis oblongis petiolatis acuminatis longiore, racemis laxis multifloris, labello trilobo basi bicristato: lobis lateralibus intermedio retuso transverso appressis, calcare pendulo clavato ovario pubescente duplo longiore.

Zeduba masuca. *Hamilt. Mss.*
Bletia masuca. *Don. Prodr. Nep.* 30.
? Amblyglottis veratrifolia. *Blume Bijdr. l. c.*

Hab. in *Napalia, Wallich,* Hamilton; *Zeylona, Macrae*; *Java?* Blume. (*hab. s. sp. et v. ic. pict.*)

Flores pallidè cæruleo-purpurascentes. Calcar unisulcatum.

4. Calanthe emarginata.

C. "foliis lato-lanceolatis, spica erecta pubente, labello basi calloso, limbo trilobo, lobo medio emarginato-spatulato, lateralibus minutis, calcare lineari compressiusculo ovarium æquante."

Amblyglottis emarginata. *Blume l. c.* 370.

Hab. in *Java*, in sylvis primævis montis Gede, Blume.

Flores magni, violacei, callis labelli aurantiacis.

5. Calanthe vestita. *Wall. Cat. no.* 7345.

C. molliter villosa, scapis laxis multifloris, pedicellis filiformibus flexuosis, labelli laminâ trilobâ: lobis lateralibus oblongis obtusis intermedio cuneato divergentibilobo inappendiculato, calcare filiformi inflexo labello breviore.

Hab. in *Tavoy*, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Scapus pedalis et ultra. Flores maximi generis.

6. Calanthe sylvatica.

C. scapo stricto foliis duplò longiore, racemo laxo multifloro, labello basi cordato auriculato trilobo ore glanduloso lobo medio cuneato dilatato emarginato apiculato plano subconcavo, calcare arcuato ovario breviore.

Centrosis sylvatica. *Thouars. Orch. Afr. tt.* 35. 36.

Hab. in *Mauritio* et *Borbonia*, Thouars, *Bouton*, *Sieber*. (*hab. s. sp. comm. cel. Bouton.*)

Flores magni purpurascentes.

7. Calanthe plantaginea. *Lindl. in Wall. Cat. no.* 7346.

C. scapo erecto basi laxè et altè vaginato foliis subæquali, foliis petiolatis ovali-oblongis acutis, labello trilobo: lobis obovatis subæqualibus intermedio basi sulcato, calcare filiformi horizontali apice bidentato, ovario pubescente.

Hab. in *Napalia* et *Kamaon*, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Flores pallidè lilacini.

8. Calanthe speciosa.

C. "foliis lato-lanceolatis, spica erecta, sepalis interioribus rhomboideis, labello intus bicristato, limbo subtrilobo, lobo medio ovato emarginato cum mucrone, calcare clavato recto ovario breviore."

Amblyglottis speciosa. *Blume* 371.

Hab. in *Java*, in sylvis obscuris montanis provinciarum Bantam et Buitenzorg, Blume.

Flores aurantiaci.

9. Calanthe pulchra.

C. "foliis oblongo-lanceolatis, spica erecta, labello basi bituberculato, limbo semitrilobo, lobo medio ovato acuto, calcare subulato arcuato ovarium æquante."

Amblyglottis pulchra. *Blume* 371.

Hab. in *Java*, in sylvis montium Seribu, Blume.

Flores pallidè aurantiaci.

10. Calanthe densiflora. *Lindl. in Wall. Cat. no.* 7344.

C. scapo laxè vaginato foliis multò breviore, racemis densis multifloris subcorymbosis, labello obovato obtuso bilobo? cum columna elongata parum connato, calcare longo recto pendulo apice clavato.

Hab. in montes *Sylhet*, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Folia sesquipedalia et ultra. Clinandrium marginatum. Flores lutei.

11. CALANTHE clavata. *Lindl. in Wall. Cat. no.* 7343.

C. scapo foliis breviore, racemo congesto cernuo longè bracteato, labello suborbiculato mucronato integerrimo basi bicalloso, calcare clavato sulcato recto.

Hab. in *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia angusta, cum caule bipedalia.

12. CALANTHE angustifolia.

C. " foliis lineari-lanceolatis cuspidatis, spica radicali, limbo emarginato undulato, calcare obtuso ovarium æquante."

Amblyglottis angustifolia. *Blume* 369.

Hab. in *Java,* in umbrosis montium provinciæ Buitenzorg, Blume.

Flores albidi, labelli limbo intùs sulphureo.

13. CALANTHE curculigoides. *Wall. Cat. no.* 7340.

C. scapo crasso foliis duplò breviore, racemo denso multifloro, labello ovato acuminato indiviso basi undulato, calcare gracili acuto apice incurvo.

Hab. in *Penang* et *Sincapur, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia bipedalia. Scapus pedalis. Flores inter minores.

14. CALANTHE striata. *R. Br. in Bot. Reg.* 578.

C. labello trilobo subbicostato basi angustato: lobis lateralibus falcatis truncatis intermedio lineari cuneato emarginato, calcare brevi conico.

Limodorum striatum. *Banks Ic. Kæmpf. t.* 2. *Swartz. Nov. Act. Ups.* 6. *p.* 79. *Willd. Sp. Pl.* 4. 123.

Hab. in *Japonia,* Kæmpfer.

Differt a Limodoro striato *Thunb. Jap.* sec. *Thunb. in Act. Soc. Linn.* 2. 327.

15. CALANTHE abbreviata.

C. " foliis lanceolatis, spica erecta, labello basi cum tuberculo hirsuto, limbi trifidi lobo medio semibifido, calcare obtuso minimo."

Amblyglottis abbreviata. *Blume* 371.

Hab. in *Java,* circa catarractas fluvii Tjikundul in montanis Gede, Blume.

Flores albi.

16. CALANTHE brevicornu. *Lindl. in Wall. Cat. no.* 7338.

C. racemis secundis, labelli laminâ trilobâ: lobis lateralibus ovatis acutis intermedio cuneato bilobo lamellis 2 petaloideis in disco, calcare brevissimo, ovario pubescente.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Scapus spithamæus, foliis subæqualis. Flores lateritio-rosei albo vittati.

17. CALANTHE gracilis. *Lindl. in Wall. Cat. no.* 7341.

C. scapis gracilibus multifloris basi altè vaginatis, labello basi saccato trilobo bilamellato: lobis lateralibus acutis abbreviatis intermedio subrotundo crispo indiviso.

Hab. in montes *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia angusta, cum caule ultra pedem longa. Scapus pauld brevior. Flores parvi. Ovarium et basis sepalorum pubescentes.

18. Calanthe tricarinata. *Lindl. in Wall. Cat. no.* 7339.

C. foliis oblongis scapo stricto laxè racemoso multò brevioribus, labello ecalcarato trilobo: lobis lateralibus oblongis obtusis nanis intermedio obovato crispo lamellis tribus petaloideis crenulatis in disco.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Scapus ferè sesquipedalis.

19. Calanthe puberula. *Lindl. in Wall. Cat. no.* 7342.

C. scapo foliis æquali laxè racemoso, bracteis lineari-lanceolatis ovario longioribus, sepalis ovatis lateralibus obliquis, petalis linearibus, labelli hastati inappendiculati ecalcarati lobis lateralibus subfalcatis intermedio lanceolato.

Hab. in montes *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia pedalia, angusta. Flores leviter pubescentes.

CLXV. TIPULARIA.

Tipularia. *Nutt. Gen. Amer.* 2. 195.

Perianthium patens. Sepala obovata, petalis conformibus latiora. Labellum nanum, liberum, trilobum, longè calcaratum. Columna marginata, erecta, labello æqualis. Anthera bilocularis. Pollinia 2, bipartita, caudiculâ lineari, glandulâ parvâ transversâ.——Herba terrestris. Pseudobulbi cæspitosi, monophylli. Folium plicatum. Flores racemosi, (ebracteati sec. *Nuttall.*)

1. Tipularia discolor. *Nuttall. l. c.*

Orchis discolor. *Pursh Fl. Am. Septentr.* 2. 586.

Hab. in pinetis sterilibus in *Americæ Septentrionalis* provinciis australibus, *Pursh,* Nuttall. (*v. s. sp. in herb. Lambert.*)

Folium unicum, ovatum, petiolatum, plicato-nervosum, glabrum, subtùs purpurascens. Petiolus margine plicato-undulatus. Scapus pedalis, nudus, vagina una alterave instructus, teres, glaber. Flores laxè spicati, brevissime pedicellati, nutantes, tristi-seu ex viridi-purpurascentes. Petala oblonga, acutiuscula, flexuosa. Labellum petalis longius, margine subundatum. Cornu adscendens, filiforme, flexuosum, purpureum. *Pursh.*——N. B. Cel. Nuttall labellum integrum describit: sed certissimè trilobum est in exemplaribus Herb. Lambert; an 2 species hic confusæ?

CLXVI. LIMATODES.

Limatodes. *Blume Bijdr.* 375. *tabellen* 62.

Perianthium erecto-patens, subæquale, liberum. Labellum liberum, indivisum, calcaratum: limbo internè tumido. Columna erecta, semiteres. Anthera 2-locularis: loculis subquadrilocellatis. Pollinia 8, obovata, caudiculâ brevi filiformi, glandulâ minutâ.——Herba terrestris. Caules basi tumidi. Folia lato-lanceolata, nervosa, membranacea. Pedunculi laterales, solitarii, pauciflori. Flores albi.

Character ex Blume.

1. Limatodes pauciflora. *Blume l. c.*

Hab. in *Java,* in sylvis opacis montis Salak, Blume.

CLXVII. GLOMERA.

Glomera. *Blume Bijdr.* 372. *tabellen* 68.

Perianthium clausum. Sepala lateralia latiora, carinata, labello supposita. Petala angustiora. Labellum liberum, indivisum, saccatum, columnam amplectens. Columna brevis, carnosa, versus apicem dilatata. Anthera truncata, bilocularis : loculis incompletè bilocellatis. Pollinia 8, ovata, compressa, in glandulam sessilia.——Epiphyta caulescens. Caules simplices, elongati, compressiusculi. Folia lineari-lanceolata, obliquè emarginata, coriacea, glabra. Flores densè capitati, terminales, paleis bracteati.

Character ex Blume.

1. Glomera erythrosma. *Blume l. c.*

Hab. in *Java,* in arbores excelsos provinciarum occidentalium, Blume.

CLXVIII. THELASIS.

Thelasis. *Blume Bijdr.* 385. *tabellen* 75.

Perianthium clausum. Sepala basi connata. Petala libera minora. Labellum liberum, ecalcaratum, indivisum, concavum, columnâ parallelum. Columna semiteres, rostello elongato, cornuto. Anthera dorsalis, rostrata, bilocularis. Pollinia 8, subglobosa, caudiculâ longâ filiformi, glandulâ hamatâ.——Epiphytæ, sociales, glabræ. Folia subcarnosa, sæpius pseudobulbis imposita. Flores in scapo radicali spicati, sessiles.

Character ex Blume.

1. Thelasis obtusa. *Blume* 386.

T. " foliis e bulbis solitariis lato-linearibus obliquè retusis, spica elongata."

Hab. in *Java,* in arbores ad montem Pangoerangoe, Blume.

2. Thelasis carinata. *Blume l. c.*

T. " foliis distichis elongato-linearibus obliquè retusis infernè carinatis, spica elongata."

Hab. in *Java,* in sylvis Salak, Blume.

3. Thelasis capitata. *Blume l. c.*

T. " foliis in bulbos difformes lineari-lanceolatis obliquè retusis, floribus capitato-confertis demum laxe spicatis."

Hab. in *Java,* in truncos montium Salak, Pantjar, &c. Blume.

NOTE. The total number of Orchideous plants belonging to the Tribe Vandeæ is as follows;

Described	477
Doubtful	10
Total	487

Their geographical arrangement is thus:

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropics.	SouthAmerica beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropics.	North Africa.
72. Nanodes	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
73. Aspasia	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
74. Ornithidium	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
75. Acriopsis	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
76. Trizeuxis	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
77. Ornithocephalus	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
78. Cirrhæa	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
79. Sarcochilus	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
80. Maxillaria	.	.	.	.	.	.	.	.	.	.	.	40	.	.	.	.	.
81. Arpophyllum	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
82. Bifrenaria	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
83. Dicrypta	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
84. Govenia	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
85. Alamania	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
86. Psittacoglossum	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
87. Cycnoches	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
88. Myanthus	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
89. Catasetum	.	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	.
90. Monachanthus	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
91. Stanhopea	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.
92. Gongora	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
93. Coryanthes	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
94. Anguloa	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
95. Peristeria	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
96. Eucnemis	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
97. Cymbidium	.	.	.	8	4	4	5	3	1	2	1	15	.	3	1	.	.
98. Acropera	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
99. Cremastra	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
100. Grammatophyllum	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
101. Trichoceros	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
102. Geodorum	.	.	.	3	2	.	1	.	.	1	.	.	.	.	.	.	.
103. Sobralia	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.
104. Acanthophippium	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.
105. Doritis	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
106. Chelonanthera	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.
107. Acanthoglossum	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
108. Sunipia	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
109. Calypso	1	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110. Eulophia	.	.	.	6	5	5	2	.	.	.	.	1	.	6	3	5	.
111. Dipodium	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.
112. Galeandra	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	2	.
113. Zygopetalum	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
114. Cyrtopodium	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
115. Cyrtopera	.	.	.	4	.	.	.	.	.	.	.	2	.	2	1	.	.
116. Lissochilus	.	.	.	.	1	.	.	.	.	.	.	1?	.	2	.	1	.
117. Notylia	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
118. Masdevallia	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
119. Cryptochilus	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
120. Jonopsis	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropics.	South America beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropics.	North Africa.
121. Rodriguezia	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.
122. Macradenia	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
123. Cryptarrhena	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
124. Cuitlauzina	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
125. Oncidium	.	.	.	.	.	.	.	.	.	.	.	38	.	.	.	.	.
126. Fernandezia	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
127. Pachyphyllum	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
128. Dichæa	.	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	.
129. Phymatidium	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
130. Cyrtochilum	.	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.
131. Odontoglossum	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.
132. Brassia	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
133. Tetrapeltis	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
134. Phalænopsis	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
135. Trichoglottis	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.
136. Telipogon	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
137. Vanda	.	.	.	3	4	1	2	1	.	.	.	.	.	.	.	.	.
138. Renanthera	.	.	.	.	.	.	3	1	1	.	.	.	.	.	.	.	.
139. Diplocentrum	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
140. Microsaccus	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
141. Camarotis	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
142. Chiloschista	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
143. Micropera	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
144. Saccolabium	.	.	.	10	11	5	6	.	.	.	.	.	.	.	3	.	.
145. Tæniophyllum	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.
146. Cleisostoma	.	.	.	.	1	2	5	.	.	.	.	.	.	.	.	.	.
147. Appendicula	.	.	.	.	.	.	18	.	.	.	.	.	.	.	.	.	.
148. Cryptoglottis	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
149. Ceratostylis	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.
150. Ephippium	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
151. Ceratochilus	.	.	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.
152. Echioglossum	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
153. Sarcanthus	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.
154. Podochilus	.	.	.	1	.	2	4	.	.	.	.	.	.	.	.	.	.
155. Adenoncos	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
156. Œceoclades	.	.	.	2	2	1	.	1	.	.	.	2	.	.	3	1	.
157. Aerides	.	.	.	4	7	1	16	1	.	.	.	.	.	.	.	.	.
158. Schœnorchis	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.
159. Aeranthes	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
160. Cryptopus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
161. Œonia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
162. Angræcum	.	.	.	.	.	.	.	.	.	.	.	1	.	1	17	.	.
163. Agrostophyllum	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
164. Calanthe	.	.	.	8	1	3	8	.	1	.	.	.	.	.	1	.	.
165. Tipularia	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
166. Limatodes	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
167. Glomera	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
168. Thelasis	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.
Total	1	1	2	58	41	24	109	11	3	5	2	198	.	14	[illegible]	9	.

ORCHIDEÆ.

Tribe IV. OPHRYDEÆ.

ORCHIDEÆ, Tribus OPHRYDEÆ. *Lindl. Orch. Sceletos.*

Pollen in massas cereaceas (pollinia) innumeras cohærens, axi arachnoideâ elasticâ glandulæ stigmatis agglutinatâ colligatas. Anthera terminalis, erecta v. resupinata, omninò persistens : loculis completis.———Herbæ omnes terrestres, foliis succulentis planis, quorum radicalia semper majora sunt, et sensim in vaginas caulis demumque bracteas transeunt. Flores omnium galeati.

ARTIFICIAL ANALYSIS OF THE GENERA.

A. *Antheræ loculi contigui paralleli, basi nullo modo elongati vel divaricati.*

* *Glandulæ cucullo stigmatis inclusæ.*

Glandula solitaria duo pollinia colligans. - -	174. ACERAS.
Glandulæ duæ.	
Cucullus solitarius.	
Labellum calcaratum,	
inappendiculatum,	
anticum. - - - -	169. ORCHIS.
posticum. - - - -	173. NIGRITELLA.
basi bilamellatum - - -	170. ANACAMPTIS.
Labellum ecalcaratum - - -	200. SERAPIAS.
Cuculli duo distincti. (Labellum convexum muticum.)	204. OPHRYS.

* * *Glandulæ nudæ, aut seminudæ.*

Bases loculorum antheræ truncati.	
Galea mutica. - - - - -	171. GYMNADENIA.
Galea calcarata. - - - -	199. MONADENIA.
Bases loculorum antheræ in cucullum spurium bivalvem dilatati	184. SCOPULARIA.

B. *Antheræ loculi sejuncti, basi divergentes, sæpè elongati.*

* *Glandulæ cucullis stigmatis inclusæ.*

Cuculli nudi,	
univalves,	
dimidiati. - - - - -	178. HEMIPILIA.
completi.	
Calcar infundibulare. - - -	175. HOLOTHRIX.
Calcar vesicatum. - - -	176. GLOSSASPIS.
bivalves. - - - -	172. PERULARIA.
Cuculli lobo antheræ valvularum supertecti. - -	194. BARTHOLINA.

* * *Glandulæ nudæ.*

Sepala omnia saccata. - - - -	205. DISPERIS.
Sepala lateralia tantum saccata. - - -	180. SACCIDIUM.
Sepalum supremum saccatum aut calcaratum.	
Anthera erecta. - - - -	198. DISA.
Anthera resupinata v. horizontalis. - -	197. REPANDRA.
Sepala omnia mutica;	
omnia connata. - - - -	183. MONOTRIS.
lateralia connata. - - -	203. CORYCIUM.
lateralia libera.	
Labelli unguis faciei columnæ adnatus. - -	202. PTERYGODIUM.
Labellum liberum : vel margine tantum columnæ adnatum.	
Anthera stipite distincto inserta.	
Labellum posticum bicalcaratum. -	196. SATYRIUM.
Labellum muticum.	
Antheræ basis a brachiis stigmatis rostello crassissimo interceptus -	181. PACHITES.
Antheræ basis brachiis stigmatis æqualis -	201. PENTHEA.
Anthera sessilis.	
Stigma processubus 2 carnosis liberis auctum.	
Rostellum maximum liberum;	
fornicatum. Perianth. galeat. -	189. BONATEA.
planum. Perianth. campanulat. -	190. DIPLOMERIS.
Rostellum parvum antheræ agglutinatum.	
Faux calcaris dente corneo canaliculato aucta.	188. ATE.
Faux inermis.	
Labellum a columna liberum. -	187. HABENARIA.
Labellum columnæ adnatum. -	191. CYNORCHIS.
Stigma muticum, vel processubus suis adnatis.	
Labellum ab anthera petalisque liberum.	
Sepala campanulata.	
Labellum calcaratum. - -	179. PERISTYLUS.
Labellum inerme. - - -	186. HERMINIUM.
Sepala lateralia reflexa.	
Labellum calcaratum,	
basi planum, processubus o. - -	177. PLATANTHERA.
basi excavatum, processubus adnatis.	182. CŒLOGLOSSUM.
abellum inerme. - - -	185. AOPLA.
Labellum petalis obliquis connatum,	
calcaratum. - - - - -	192. TRYPHIA.
muticum. - - - - -	193. ARNOTTIA.
Lab. cum anthera petalisque connatum -	195. BICORNELLA.

CLXIX. ORCHIS.

Orchis. *Linn. Sp. Pl. Swartz. in Act. Holm.* 1800, *p.* 205. *Brown in Hort. Kew.* 5, 188. *Richard. Annot. in Orch. Europ.*

Flores galeati. Sepala subæqualia; supremum cum petalis in fornicis speciem connivens; lateralia nunc convergentia nunc reflexa. Petala erecta sepalo subæqualia. Labellum anticum, calcaratum, integrum v. indivisum, cum basi columnæ connatum. Anthera erecta, loculis contiguis parallelis. Glandulæ polliniorum 2, distinctæ, cucullo communi (i. e. plicatura cucullata stigmatis s. rostelli) inclusæ.——Herbæ terrestres, radicibus tuberculiferis, foliis plerisque radicalibus, tactu mollibus, subsucculentis, sæpè maculatis.

This genus, disembarrassed as it now is of a very large number of species, appears to form a truly natural assemblage; and this being the case, I think we may well excuse the minute characters by which it is

defined; the more especially as those characters are easily discoverable on the recent plant by the most unskilful; and it is to be supposed that those who attempt to examine dried specimens have a sufficient degree of skill for such an operation.

Although the character taken from the number of glands to which the pollen masses adhere, is obscure, and often difficult to determine in dried specimens, yet it seems necessary to employ it, in order to exclude the *Satyrium hircinum* of Linnæus, which is evidently a near ally in nature of Aceras anthropophora. Dr. Brown, indeed, retained the former species in *Orchis*, and he has been followed by myself in the Synopsis of the British Flora, and by Dr. Hooker in his British Flora. Nevertheless, considering the evident trace of a spur in Aceras anthropophora, the shortness of that of *Satyrium hircinum*, the complete accordance of these two species in other respects, and especially the evident unimportance of the spur, when very short, in *Herminium*, I think it most advisable, after a careful examination of all the species I know, to adopt Richard's idea of the genus *Himantoglossum*; a name, however, that I cannot, in common with continental writers, prefer to the more ancient one of *Aceras*; which can hardly be said to be objectionable because some species have spurs, inasmuch as such species form the exception to the general rule.

It is usual to divide the species by the structure of their roots, a character unemployed in a similar manner in any other genus. Independently of the inconvenience of being unable, by such a mode of division, to arrange species, or determine specimens, the roots of which are unknown, there is the additional disadvantage in employing the roots for a principle of division, that very unnatural groups are formed; for example, *O. sambucina* is separated from *O. pallens*, &c. &c.

A better distinction exists in the direction of the sepals, of which either all converge, forming a sort of helmet, whence they may be called *Militares*, or the two lateral sepals diverge, as in *O. mascula* and its allies. By this means the genus is divided into two groups, each of which is so natural, that it may almost be doubted whether they are not distinct genera.

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§ 1. MASCULÆ. Sepalis lateralibus reflexis v. patentibus. *Lindl. in Bot. Reg. t.* 1701.
 * Labello indiviso; v. tantum lacero; v. obsoletissimè trilobo. Sp. 1—6.
 ** Labello 3-4-fido. Sp. 7—21.
§ 2. MILITARES. Sepalis conniventibus galeam referentibus. *Lindl. l. c.* (HERORCHIS.)
 * Labello indiviso. Sp. 22—24.
 ** Labello trilobo. Sp. 25—31.
 *** Labello 4-fido v. 4-partito; mucrone inter crura media semper interjecto. Sp. 32—end.

§ 1. MASCULÆ. *Sepalis lateralibus reflexis v. patentibus.*

* *Labello indiviso; v. tantum lacero; v. obsoletissimè trilobo.*

I have placed in this section all the species in which the laceration of the margin of the lip, of whatever degree, does not regularly take the form of three distinct and well defined lobes. And I have referred to the next section all those which, like O. pallens and sambucina, have often a nearly entire lip, but with a manifest tendency to divide into three lobes.

1. ORCHIS salina. *Tourtchaninoff MSS.*

O. foliis lineari-lanceolatis erectis, spicâ laxiflorâ, sepalis angustis obtusis

lateralibus longioribus, labello rhomboideo crenato subtrilobo acuminato pubescente calcare pendulo acuminato breviore, bracteis herbaceis lineari-lanceolatis florum longitudine, tuberculis palmatis.

Hab. in *Sibiria,* in locis subsalsis prope pagum Uburun, *Tourtchaninoff,* (*hab. s. sp. comm. cel. Prescott.*)

Caulis gracilis vix spithamæus. Flores minores quam in *O. latifoliæ* varietate ulla. Huic affinis est, sed statura exili labello et calcare acuminato diversissima est.

2. Orchis iberica. *Bieberst. in Willd. Sp. Pl.* 4, 25.

O. foliis ensiformibus erectis in caulem ascendentibus, spicâ laxâ angustâ multiflorâ, sepalis angustè ovatis obtusis patulis, labello subquadrato pubescente emarginato mucronato calcaris penduli filiformis longitudine, bracteis herbaceis lineari-lanceolatis floribus brevioribus, tuberculis elongatis apice bi-tripartitis.

O. angustifolia. *Bieb. Fl. Taur. Cauc.* 2, 368.

Hab. ad rivulos *Caucasi* orientalis subalpini; necnon in *Tauria* meridionali florens Junio, Bieberstein; circa Constantinopolim *Domina Liston.* (*hab. s. sp. comm. cel. Hooker.*)

Facies ferè *O. laxifloræ* floribus minoribus, et magis aggregatis.

3. Orchis latifolia. *Linn.! Sp. Pl.* 1334.

O. foliis erectis lanceolatis acutis laxè vaginantibus, spicâ cylindraceâ multiflorâ, sepalis ovatis acutiusculis, labello rhomboideo vel oblongo crenato nunc leviter trilobo lateribus deflexo lineâ cordiformi notato, calcare pendulo cylindraceo v. conico, bracteis herbaceis acuminatis flore sæpiùs longioribus, tuberibus palmatis.

α. *vera;* floribus majoribus, labello latiore calcari æquali, foliis immaculatis.

O. latifolia. *Willd. Sp. Pl.* 4, 28. *Fl. Danica. t.* 266. *De Cand. Fl. Fr.* 3, 251. *Eng. Bot. t.* 2308. *Hooker, Fl. Lond. c. ic. Smith, Eng. Fl.* 4, 21. *Rchb. Fl. Excurs.* 126. *Plantæ Criticæ,* 6, *t.* 564. *Mayrhof. Dissert. p.* 24.

β. *indica;* floribus majoribus, labello rotundato sublobato calcare ovarium æquante breviore.

O. Hatagirea. *Don. Prodr. Fl. nep.* 23. *Wallich. Cat. No.* 7062.

γ. *cruenta;* floribus minoribus, labello acutiore calcare breviore, foliis maculatis.

O. cruenta. *Müll. Fl. Danica. t.* 876. *Willd. Sp. Pl.* 4, 29.
O. hæmatodes. *Rchb. Fl. Excurs.* 126.

δ. *conica;* calcare magis conico, bracteis brevioribus, spicâ laxâ pauciflorâ.

O. latifolia. *Sommerfeldt! in Wahl. Fl. Suec. Supp.*
O. cruenta. *Rchb.! Fl. Excurs.* 127. "*Rochb. Bann. t.* 1, *fig.* 1." *fide Rchb.*

ε. *angustifolia;* foliis lineari-lanceolatis.

O. angustifolia. *Lois. Fl. Gall. Rchb. Pl. Crit.* 9, *t.* 848.
O. divaricata. *Rich. Merat. Fl. Paris ed.* 2. 2. *p.* 94. *De Brébiss. Act. Soc. Linn. Calvados. p.* 373.
O. comosa. *Scop. Carn. No.* 1120.

ζ. *atropurpurea;* calcare apice dilatato, floribus bracteisq. atropurpureis.

O. atropurpurea. *Tausch. Rchb. Fl. Excurs. p.* $\frac{140}{19}$.

Hab. per omnem Europam frigidiorem et Asiam cistropicam in pratis, sylvis dumetisque; α. Ins. Fieroe *Lyngbye*; β. Gossainthan, Shalma, Choor, Peer Punjal *Royle*; γ. Norvegia, Pyrenæis, Mont. Himalayens. *Royle*; δ. Nordlandia, *Sommerfeldt*, Lapponia *Carling*, Monte Sarko Hungariæ; ε. prope *Fallesiam* et per omnem Germaniam, (*v. v. sp. et hab. s. sp.*)

It is after a most careful examination of specimens that I have determined upon combining the above supposed species. Although they do appear in extreme cases to be distinct, I nevertheless am quite at a loss for any precise character by which they can be defined with anything like certainty.——*O. cruenta* of Flora Danica has smaller flowers than what I have considered the true *O. latifolia*, and its spur is perhaps a trifle longer; but the latter circumstance can, I think, be esteemed but of slight importance in a case where the habit of both is so very similar.——Of the *O. cruenta* of Reichenbach I have seen authentic specimens from Mount Sarko in Hungary, in the Herbarium of Dr. Von Martins; they agree precisely with specimens gathered in Nordland by Sommerfelt, and preserved in Dr. Lehmann's collection, and seem to me a more Alpine or Northern state of *O. latifolia*; indeed, with the exception of the rather shorter bracts, and more conical spur, I can make out nothing like a specific character for it; and I find all that relates to the spur and lip so much subject to variations, between which no limits can be seen, that I am compelled, in this species, to pass them by.——*O. Hatagirea* is, I conceive, the Indian form of the species; it has entirely the habit of the European *O. latifolia*, and, like it, seems to produce a smaller flowered form, which may be compared to *O. cruenta*; its lip is sometimes round, and scarcely lobed, sometimes slightly three-lobed: in Mr. Royle's Herbarium is a suite of specimens completely connecting both those states.

In Smith's Herbarium is a specimen gathered near Tangier by Durand, which is very like this species in a gigantic state; but which has the lip three-lobed, as in *O. maculata*, and is possibly *O. foliosa*.

It is probable that this plant varies in other ways. I have a Russian specimen, which has a rhomboidal crisped lip, with the habit of *O. sambucina*, and which is either this or a new species; and I have a thing from Irkutsk which, without being exactly *O. latifolia*, is not *O. maculata*.

4. Orchis majalis. *Rchb. Pl. Crit.* VI. 770.

O. foliis patentibus oblongis acutis laxè vaginantibus, spicâ crassâ oblongâ, sepalis obtusis, labello orbiculato lacero-crenato plano maculâ cordiformi notato calcare cylindraceo conico breviore, bracteis herbaceis ovato-lanceolatis flore longioribus, tuberculis palmatifidis.

O. majalis. *Rchb. Fl. Excurs.* 126. *Mayrhof. Dissert. p.* 24.

Hab. in Germania; prope Dornbach *Jacquin* (*hab. s. sp. comm. cel. Jacquin.*)

Differt ab. *O. latifolia*: foliis oblongis patentibus plerumque nigro aut rubro maculatis subtus glaucescentibus, caule humiliore, spica crassiore, floribus majoribus saturatius rubris aut purpureis; et præcipue tempore florendi in eodem loco multo præcociore.

I quote Reichenbach's figure upon his own authority; but I must confess it is very unlike the plant I have described, for which I am indebted to Baron Jacquin.

5. Orchis sesquipedalis. *Willd. Sp. Pl.* 4, 30.

O. "labello obovato lateribus reflexo emarginato dentato, petalis superioribus acutis conniventibus, cornu cylindraceo germen subæquante, bracteis lanceolatis flore longioribus." *Willd.*

O. latifolia? *Link. MSS.*

Hab. in *Lusitania*, Link.

Radix palmata. Caulis sesquipedalis. Folia lato-lanceolata. Spica floribus alternis remotiusculis. Labellum indivisum obovatum lateribus reflexum apice emarginatum, margine acutè dentatum. Cornu fere longitudine germinis cylindraceum crassum. *Willd.*

6. Orchis saccata. *Tenore, Append. Prima.* 65.

O. foliis radicalibus ovato-oblongis acutis patentibus caulinis minoribus vaginantibus, spicâ laxiflorâ, sepalis obtusis, labello oblongo obtuso crenato calcare crasso pallido pendulo longiore, bracteis herbaceis florum longitudine.

O. collina. *Banks. MSS. in Herb. Smith.*
O. saccata. *D'Urville in Act. Soc. Linn. Par.* 1, 375. *Rchb. Fl. Excurs.* 122.

Hab. in *Europa Australi*; in Colchide, D'Urville; Sicilia, *Gussone*, Lucaniæ pratis montosis, *Tenore*, prope Tergestum, *Rchb.* etiam in *Barbaria*, prope Algeriam, *Broussonet* (*hab. s. sp. comm. cell. Tenore, Tineo et Gussone.*)

Folia maculata.

* * *Labello 3-4-fido, v. distinctè trilobo.*

7. Orchis aristata. *Fischer in Litt.*

O. foliis ovato-lanceolatis acutis caule subdiphyllo longioribus, spicâ ovatâ densiflorâ, sepalis acuminatissimis, labello ovato acuto levissimè versus apicem trilobo lateribus deflexo, calcare crasso pendulo labello longiore, bracteis herbaceis acuminatis floribus longioribus, tuberculis palmatis.

Hab. in *Unalaschka*, *Fischer* (*hab. s. sp. comm. cel. Fischer.*)

Intermediate, as it were, between *O. latifolia*, from which it differs in its acuminate sepals and in stature, and *O. sambucina*, which is equally distinguished by the same character.

8. Orchis sambucina. *Linn.! Sp. Pl.*

O. foliis obovato-oblongis obtusissimis in caulem ascendentibus, spicâ densâ oblongâ, sepalis obtusiusculis, labelli obsoletè trilobi rotundati lobo intermedio angustiore, calcare pendulo inflato labello duplò longiore ovarium æquante, bracteis foliaceis oblongis acutis floribus longioribus, tuberculis palmatis.

α. floribus ochroleucis.

O. sambucina. *Willd. Sp. Pl.* 4, 50. *Jacq. Fl. Austr. t.* 108. *Rchb. Pl. Crit.* 9, *t.* 809.

β. floribus purpureis.

O. incarnata. *Linn. Sp. Pl. Willd. p.* 50.
O. Schleicheri. *Sweet Fl. Garden*, 2, 199.
O. sambucina. β. incarnata. *Rchb. Pl. Crit.* 9, *t.* 810.
O. Traunsteineri. *Saut. Rchb. Fl. Excurs.* $\frac{140}{18}$.

Hab. per omnem Europam meridionalem et mediam; etiam in *Jutland*, *Hb. Hornem.* Scania, *Fries* (*hab. s. sp.*)

9. Orchis pallens. *Linn.*

O. foliis obovato-oblongis obtusissimis in caulem ascendentibus, spicâ densâ oblongâ, sepalis ovatis obtusis, labelli rotundati trilobi lobis æqualibus integris, calcare horizontali recurvo inflato labello duplò longiore, bracteis membranaceis lineari-lanceolatis floribus brevioribus, tuberculis indivisis.

O. pallens. *Willd. Sp. Pl.* 4, 27. *Jacq. Fl. Austr.* 1, *t.* 45. *Rchb. Pl. Crit.* 9, *t.* 808, *opt. Fl. Excurs.* 122.
O. sulphurea. *Bot. Mag. t.* 2569.

Hab. in Europa media (*hab. s. sp.*)

10. Orchis pseudo-sambucina. *Tenore Synops. ed.* 1, *p.* 82. *Fl. Neap. vol. ii. p.* 284, *t.* 86.

O. foliis linearibus spathulatis obtusis subundulatis in caulem ascendentibus, spicâ cylindraceâ laxiusculâ, sepalis ovatis obtusis, labelli latioris quam longi trilobi lobis subæqualibus integris, calcare gracili horizontali labello duplò longiore, bracteis foliaceis lanceolatis acutis floribus longioribus, tuberculis palmatis.

O. romana. *Sebast. et Maur. Rom. Pl. Fasc.* 2, *t.* 3. *Fl. Rom. Prodr.* 308, *t.* 9. *Rchb. Fl. Excurs.* 126.
O. bracteata. *Tenore, Fl. Neap. Prodr. p.* 52, non Willd.

Hab. in *Italia Australi, Tenore ;* etiam in *Tauria Stephan ; et Iberia ? Prescott* (*hab. s. sp.*)

Differt ab *O. sambucina* calcare graciliore horizontali, et ab *O. pallente* bracteis longis foliaceis tuberculisque. Variat floribus rubris.

11. Orchis provincialis. *Balbis Misc. t.* 2.

O. foliis lanceolatis omnibus radicalibus, spicâ laxâ, sepalis ovato-oblongis obtusis, labelli latioris quam longi pubescentis trilobi crenulati lobis lateralibus acutis intermedio truncato subemarginato, calcare gracili ascendente apice inflato labello triplo longiore, bracteis membranaceis apice subulatis floribus brevioribus, tuberculis indivisis.

O. provincialis. *De Cand. Synops. Fl. Gall. p.* 169. *Rchb. Fl. Excurs. p.* 122. *Tenore, Syll. p.* 456.
O. Cyrilli. *Tenore, App. Prima.* 64. *Fl. Neap. vol. ii. p.* 287, *t.* 87.

β. *pauciflora ;* floribus majoribus, labello magis pubescente, foliis immaculatis.

O. pauciflora. *Tenore, l. c. Fl. Neap. vol. ii. p.* 288, *t.* 88. *Syll. p.* 456.

Hab. in *regno Neapolitano ;* β. in nemoribus montosis Stabiarum regionis editioribus, et in Lucania, *Tenore* (*hab. s. sp. comm. cell. Tenore et Tineo, et v. v. c.*)

Differt ab *O. pallente* foliis acutis, labello, et calcare duplo longiore gracili arcuato apice inflato.

I have authentic specimens from Professor Tenore of his *O. pauciflora*, which certainly has, as he states in his Sylloge, a broad, convex, hairy lip ; but I cannot think it more than a variety of O. Cyrilli from mountainous places.

12. Orchis canariensis.

O. foliis oblongis acutis in caulem ascendentibus et acuminantibus, spicâ laxiusculâ, sepalis petalisque ovato-oblongis acutis, labelli oblongi medio pubescentis leviter trilobi lobo medio truncato crispulo lateralibus multo

majore, calcare crasso obtuso labello breviore, bracteis membranaceis apice subulatis floribus brevioribus, tuberculis indivisis.

Hab. in rupestribus elatioribus Los Organos dictis supra vallem *Oratavæ, Webb et Berthelot* (*hab. s. sp. comm. cel. Webb.*)

Facies fere *O. masculæ*, calcare brevi crasso abundè diversa. Flores verosimiliter purpurei.

13. Orchis foliosa. *Soland. MSS. Lowe, Prim. Fl. Mader. p.* 13.

O. foliis oblongo-lanceolatis acuminatis laxè vaginantibus, spicâ oblongâ multiflorâ, sepalis ovatis acutis, labello latiore quam longo obsoletè trilobo plano: laciniis lateralibus emarginatis intermediâ acutâ multò majoribus, calcare pendulo cornuto labello duplo breviore, bracteis herbaceis acuminatis flore sæpè longioribus, tuberculis palmatis. *Lindley in Bot. Reg. t.* 1701.

Hab. in sylvis dumetisque *Maderæ, Lowe* (*exam. v. cult. et s. sp. in herb. Henslow.*)

Omnino *O. latifoliam* refert; sed omnibus partibus major est, labello plano manifestè trilobo nec rhomboideo, calcare breviore graciliore, caule elatiore.

14. Orchis mascula. *Linn.! Sp. Pl.*

O. foliis oblongis obtusis omnibus radicalibus, spicâ laxâ multiflorâ, sepalis oblongis obtusis, labelli trilobi lobis lateralibus divergentibus subintegris intermedio emarginato subæqualibus, calcare horizontali obtuso labello longiore, bracteis apice subulatis floribus brevioribus, tuberculis indivisis.

O. mascula. *Eng. Bot.* 9, *t.* 631.

β. labello minus fisso.

O. ovalis. *Schm.* fide *Reichenbachii.*

Hab. in pratis per omnem *Europam septentrionalem* vulgatissima, (*v. v. sp.*)

Variat floribus incarnatis albidisque.

15. Orchis parvifolia. *Chaubard in Amans, Fl. Agen.* 369, *t.* 7.

O. "foliis lineari-lanceolatis canaliculatis, spicâ densâ, calcare conico obtuso ovario duplo breviore, labelli trilobi lobis crenulatis rotundatis intermedio paulò longiore et angustiore, sepalis divaricatis." *Chaub.*

Hab. in pratis humidis *Galliæ meridionalis,* Chaubard.

Flores purpurei; labellum albidum maculis purpureis punctatum. Tubercula oblonga. Facies *O. masculæ,* qua differt floris forma et foliis canaliculatis. *Chaub.*

16. Orchis brevicornu. *Viviani, Fl. Ital. Fragm. t.* 12, *f.* 2.

O. "labio trilobo denticulato, calcare conico obtuso ovario triplò breviore, sepalis acutiusculis exterioribus reflexis, foliis lineari-lanceolatis." *Rchb. Fl. Excurs. p.* 123.

Hab. in *Italia,* Viviani.

O. masculæ proxima, imprimis calcare brevi distincta, spicâ etiam laxâ. *Rchb.*

Possibly the same as *O. parvifolia.*

17. Orchis stabiana. *Tenore! Syll. Fl. Nap. p.* 453.

O. foliis lanceolatis omnibus radicalibus, spicâ laxâ multiflorâ, sepalis acuminatis, labelli trilobi lobis lateralibus divergentibus subdentatis intermedio truncato emarginato duplo brevioribus, calcare horizontali obtuso labello longiore, bracteis apice subulatis floribus brevioribus.

Hab. in nemoribus *Stabiarum, Tenore (hab. s. sp. comm. cel. Tenore.)*

Folia lætè virentia nec pallida, immaculata. Labelli lobus medius concolor. Flores odori. *Tenore.*

This looks like O. speciosa more than O. mascula, but differs entirely in the form of the lip.

18. Orchis patens. *Desf. Fl. Atl.* 2, *p.* 318 *t.* 248. *Willd. Sp. Pl.* 4, 19.

O. foliis omnibus radicalibus angustis spathulatis acutis, spicâ laxiflorâ, sepalis ovatis obtusis, labelli trilobi oblongi plani laciniis lateralibus divergentibus crenatis truncatis abbreviatis intermediâ cuneatâ tridentatâ, calcare crasso obtuso pendulo labello breviore, bracteis linearibus apice subulatis membranaceis ovario brevioribus.

Hab. in *Atlantide, Desfontaines (exam. s. sp. in Hb. Lehmann.)*

19. Orchis speciosa. *Host. Fl. Austr.* 2, 527. *Mayrh. Dissert.* 6.

O. foliis oblongis obtusis omnibus radicalibus, spicâ multiflorâ, sepalis acuminatis, labelli subrotundi crenulato-incisi trilobi lobis omnibus approximatis intermedio rotundato integro bifidove, calcare horizontali obtuso labello æquali, bracteis apice subulatis floribus brevioribus, tuberculis indivisis.

O. mascula. *Jacq. Miscell.* 2, 375, *t.* 180, *et verosimiliter Willd. Sp. Pl.* 4, 18, *plurimorumque aliorum. Rchb. Pl. Crit.* 6, *t.* 563, *mala. Fl. Excurs. p.* $\frac{140}{18}$.
O. signifera. *Vest. in Hb. Martii.*

Hab. in pratis pascuisque *Austriæ (hab. s. sp. comm. cel. Jacquin.)*

Folia, uti et caulis ipse, punctis maculisque atropurpureis apud nos sæpè numerosissimis, rariùs paucis notata. Flores speciosi in spicam longam formosam collecti, ex rubro purpurei, rariùs albi. Labellum subquadrifidum, rariùs trifidum, punctatum, laciniæ obtusæ modicè reflexæ, media plus minus emarginata, labelli discus villosus. *Mayrhofer.*

My specimens of this plant from Baron von Jacquin have altogether the habit of O. mascula; from which, however, they seem to differ essentially in the very taper pointed sepals, and in the form of the lip. It may, however, be doubted whether it is anything more than a variety of O. mascula.

20. Orchis laxiflora. *Lam. Encycl.* 4, 553.

O. foliis lineari-lanceolatis acuminatis in caulem ascendentibus, floribus distantibus, sepalis obtusissimis, labelli subcrenati trilobi lobis lateralibus rotundatis cum intermedio emarginato confluentibus, calcare horizontali labello subæquali, bracteis lanceolatis floribus subæqualibus, tuberculis indivisis.

O. laxiflora. *Reichenbach, Fl. Excurs.* 1, 122.
O. ensifolia. *Vill. Delph.* 2, 29. *Willd. Sp. Pl.* 4, 25.
O. palustris. *Jacq. Ic. Rar.* 1, *t.* 181. *Willd. Sp. Pl.* 4, 26. *Rchb. Pl. Crit.* 9, *t.* 831.
O. Tabernæmontani. *Gmel. sec. Rchb.*
O. mediterranea. *" Gussone, Pl. Rar. p.* 235." *sec. Tenore.*

Hab. per omnem *Europam* meridionalem vulgaris; etiam in *Gottlandia, Fries*; et prope *Gorenki, Prescott (hab. s. sp.)*

Species caule folioso, foliis lineari-lanceolatis acuminatis, et spicâ gracili laxâ distinctu facillima. Labelli lobi nunc leviores nunc profundiores; vix autem varietates indicant, occurrunt enim in eodem individuo.

21. ORCHIS maculata. *Linn.! Sp. Pl.*

O. caule gracili, foliis lineari-oblongis obtusis remotis superioribus sensim diminutis acuminatis, spicâ densâ conicâ v. cylindraceâ, sepalis ovatis acutis, labelli plani subcuneati apice trilobi lobis omnibus acutis: lateralibus subcrenulatis intermedio acuto latioribus, calcare gracili pendulo labelli longitudine, bracteis lineari-lanceolatis acuminatis herbaceis floribus æqualibus, tuberculis palmatis.

O. maculata. *Willd. Sp. Pl.* 4, 31. *Fl. Dan. t.* 933. *Eng. Bot. t.* 632. *Hooker, Fl. Lond. c. ic.* *Rchb. Plant. Crit.* 6, *t.* 566. *Fl. Excurs.* 126. *Mayrh. Dissert.* 23.
O. tetragona. *Heuffel in Bot. Zeit.* 1833, *No.* 23, bracteis paulò longioribus.

Hab. per omnem *Europam* temperatam et frigidiorem; *Islandia, Mürk* in Hb. Hornem. (*hab. s. sp. et v. v. sp.*)

§ 2. MILITARES. *Sepalis conniventibus galeam referentibus.* (HERORCHIS.)

* *Labello indiviso.*

22. ORCHIS rubra. *Jacq. Ic. Rar.* 1, *t.* 183.

O. scapo basi præcipuè folioso, foliis lineari-lanceolatis acutis arctè vaginatis, sepalis oblongis acutis, labello crenulato unguiculato calcari conico incurvo pendulo æquali.

α. labello rhombeo acuto.

O. rubra. *Willd. Sp. Pl.* 4, 24. *Rchb. Fl. Excurs. p.* 123.
O. papilionacea. *Bot. Reg. t.* 1155, *et plurium auctorum.*

β. labello rotundato, sæpè latiore quam longo.

O. expansa. *Tenore, Sylloge, p.* 455.
? O. papilionacea. *Willd. Sp. Pl.* 4, 24, aliorumque.
O. papilionacea. *Fl. Græc. t.* 928.

Hab. in *Europa Australi*; α. per omnem Italiam; β. in regno *Neapolitano, Tineo, Creta, Zuccarini, Græcia, Sibthorp, Sicilia, Gussone,* (*hab. s. sp. et v. v. cult.*)

Statura palmaris ad pedalem et ultra. Folia acuta, sæpè subundulata, circa radicem præcipuè ordinata, vaginis arctis. Bracteæ roseæ floribus ferè æquales. Flores sanguinei, venosi, magni.

Varietas β. nullo modo distinguenda est nisi labello obtuso rotundato et quasi unguiculato; Veræ O. papilionaceæ tantum accedit, præsertim exemplaribus creticis, ut dubius omnino hæreo an revera sint species diversæ.

23. ORCHIS papilionacea. *Linn.! Sp. Pl.* 1331.

O. scapo undique folioso, foliis laxè vaginantibus, sepalis oblongis acutis, labello maximo venis flabelliformibus denticulato calcare gracili recto pendulo longiore.

O. papilionacea. *Desf. Fl. Atl.* 2, 316. *Rchb. Fl. Excurs. p.* 123.

Hab. in *Hispania, Alströmer*; *Lusitania, Langsdorff*; *Algeria, Desfontaines*; (*v. s. sp. in Hb. Linn. Smith et Bentham.*)

O. rubræ proxima, labello lato rotundato sessili magis regulariter dentato, venis flabelliformibus semper in denticulo desinentibus tantum distinguenda. Caulis nunc 3-uncialis, nunc pedalis.

24. ORCHIS spectabilis. *Linn. Sp. Pl.* 1337.

O. foliis binis oblongis obtusis scapi longitudine, bracteis foliaceis floribus longioribus, labello lanceolato calcari clavato pendulo æquali.

O. spectabilis. *Willd. Sp. Pl.* 4, 36. *Pursh. Fl. Am. Sept.* 2, *p.* 587. *Beck, Bot. of North and Middle States, p.* 347.
O. humilis. *Michaux,*
Habenaria spectabilis. *Spreng. Syst.* 3, 689.

Hab. in *America Septentrionali;* sylvis umbrosis a Canada ad Carolinam, Beck, *Goldie,* Pursh. (*hab. s. sp.*)

Species nulli affinis; labellum albidum; sepala viridi-purpurea.

* * *Labello trilobo.*

25. ORCHIS coriophora. *Linn.! Sp. Pl.* 1332.

O. foliis lineari-lanceolatis acutis sursum evanescentibus, spicâ elongatâ, sepalis in galeam agglutinatis lineari-lanceolatis acuminatis, labello trilobo calcari conico æquali: laciniis lateralibus deflexis intermediâ lanceolatâ multò brevioribus.

O. coriophora. *Bieb. Fl. Taur. Cauc.* 2, 363, *et verosimiliter auctorum plurium.*
O. cassidea. *Bieb. Fl. Taur. Cauc.* 3, 600.
O. Polliniana. *Spreng.*
O. fragrans. *Pollini. Rchb. Fl. Excurs.* 124.

Hab. in *Europa Australiore;* et *Tauriæ meridionalis* udis, Bieberstein; montosis Dalmatiæ; Monspelii, *Delile;* Tergesti, *Agardh,* Romæ et Florentiæ, *Strangways;* Calabria et Apulia, Sieber; necnon in *Barbaria,* Desfontaines (*hab. s. sp.*)

Flores sordidè purpurei, fuscescentes. Petala tota in cucullum cordato-lanceolatum acutum cohærentia: apiculis tantummodo brevissimis conniventibus liberis. Labelli faux purpureo-punctata. *Bieberst.*

Quite distinct from O. cimicina, in its long sepals, which form a compact upper lip, and in the long spur, which is fully equal to the lip in length. It does not dry of the sooty colour of *O. cimicina;* and its flowers are sweet scented. Reichenbach distinguishes three varieties, but they are of no importance. Steven (*Observ. in Pl. Rossicas. p.* 64) seems to consider O. cassidea distinct from O. coriophora; whence I conclude that by the latter name he means O. cimicina, which is, therefore, found in Iberia and Caucasus.

26. ORCHIS cimicina. *Crantz. Stirp. Austr.* 6, 498.

O. foliis lineari-lanceolatis acutis sensim decrescentibus, spicâ oblongâ, sepalis in galeam conniventibus ovatis obtusis siccatione fuliginosis, labello trilobo calcare incurvo duplo longiore: laciniis lateralibus deflexis intermediâ integrâ parùm brevioribus.

O. coriophora. *Willd. Sp. Pl.* 4, 16? *Jacq. Fl. Austr. t.* 122. *Rchb. Plant. Crit. VI.* 773. *Fl. Excurs.* 123. *Mayrhofer, Dissert.* 18.

Hab. in *Gallia* et *Austria;* etiam in *Iberia* et *Caucaso* cisalpino, Steven (*hab. s. sp. comm. illustr. Jacquin.*)

Spica brevis, densa, triste ferrugineo-purpurea. Flores non magni fœtorem spargunt verè cimicinum. Sepala sordidè rubentia arctè connivent. *Mayrh.* Labium rubro-punctatum lobis obliquè truncatis virentibus, calcar roseum. *Rchb.*

Generally confounded with O. coriophora, from which Reichenbach has

well distinguished it. I have seen no specimens, except French and Austrian ones, for the latter of which I am indebted to Baron Jacquin. It dries like O. fusca. As it appears from the Linnæan Herbarium that the true O. coriophora is what is usually called O. fragrans, I have restored the name O. cimicina to this.

27. Orchis sancta. *Linn.! Sp. Pl.* 1330. *Willd. Sp. Pl.* 4, 41.

O. foliis ......, caule vaginato aphyllo, spicâ elongatâ, sepalis in galeam agglutinatis lineari-lanceolatis acuminatis, labello trilobo calcari conico inflexo longiore: laciniis lateralibus acutè bilobis intermediâ acutâ paulò brevioribus.

Hab. in *Palæstina, Linnæus* (*v. s. sp. in herb. Linn.*)

O. coriophoræ adeo similis ut meram varietatem dicas; sed labellum et calcar sunt planè diversa. Folia et tubercula in specimine herbarii Linnæani deficiunt.

Obs. O. sancta, *D'Urville in Act. Soc. Linn. par.* 1, 376, ad sepes insulæ Coi communis, Maio florens, toto cælo differt. Nescio cui speciei referenda est.

28. Orchis acuminata. *Desf. Atl.* 2, 318, *t.* 247.

O. foliis ovalibus acutis cuspidatis, sepalis acuminatissimis, labello tripartito glaberrimo calcari pendulo incurvo æquali: laciniis lateralibus truncatis abbreviatis intermediâ subrotundâ crenulatâ, bracteis acuminatis floribus subæqualibus.

O. acuminata. *Willd. Sp. Pl.* 4, 17. *Rchb. Fl. Excurs.* 124. *Bot. Mag. t.* 1932. *Cambess. En. Fl. Balear.* 140.
O. parviflora. *Tenore, Fl. Nap. Prodr. p.* 52.
O. lactea. *Poir. in Lam. Dict.* 4, 594. *Willd. Sp. Pl.* 4, 24, *fide Cambessedis.*

Hab. in *Algeria, Desfontaines; Sicilia, Tineo; insulis Balearicis,* Cambessedes (*hab. s. sp. comm. cel. Tineo.*)

Adest in Hb. Lehm. a Lamarckio sub nomine O. laceræ; an Poiretius lacteam pro lacera scripsit solitâ incuriâ?

29. Orchis corsica. *Viviani.*

O. "bulbis 2, foliis ovato-ellipticis, spicâ contractâ globosâ, petalis omnibus conniventibus ovato-acuminatis: 2 interioribus lateralibus paulò minoribus, labello trifido: lobis lateralibus falcatis dentatis medio apicem versùs rotundato expanso dentato, calcare incurvo obtuso germen duplo superante." *Reich. Pl. Crit. IV. p.* 70.

Hab. in *Corsica,* Viviani.

An Anacamptis?

30. Orchis morio. *Linn.! Mantiss.* 485.

O. foliis oblongo-linearibus obtusis, sepalis oblongis obtusis lineatis, labello trilobo latiore quam longo sepalis majore calcari horizontali obtuso subæquali: laciniis lateralibus dentatis intermediâ subemarginatâ majoribus.

O. morio. *Willd. Sp. Pl.* 4, 18. *Eng. Bot. t.* 2059. *Smith, Engl. Flora,* 4, 11. *Rchb. Fl. Excurs. p.* 122. *Mayrhof. Dissert.* 14.

Hab. in *Europæ* pratis vulgatissima (*v. v. sp.*)

Reichenbach correctly observes that this is often confounded with O. longicornis; especially in herbaria. It is a much larger plant, with a

very broad lip, the lateral segments of which are always wider than the middle one, and deeply notched. The flowers vary from dark purple to pink or white; and, although spotted with crimson on a white ground in the middle of the lip, are by no means so gaily variegated as O. longicornis.

Quid O. morio, *Loureir.* 2, 629, in sylvis montosis Cochinchinæ?

31. Orchis longicornis. *Desf. Fl. Atl.* 2, 317, *t.* 246.

O. foliis oblongo-linearibus obtusis, sepalis oblongis obtusis, labello trilobo sepalis æquali calcare horizontali apice inflato breviore: laciniis lateralibus subintegris intermediæ æqualibus v. minoribus.

α. labelli lobis lateralibus integris atropurpureis rotundatis, intermedio albo variegato.

O. longicornis. *Bot. Mag. t.* 1944. *Bot. Reg. t.* 202. *Rchb. Fl. Excurs.* 122.

β. labelli lobis subæqualibus intermedio ovato lateralibus truncatis dentatis.

O. picta. *Lois. Fl. Gall. t.* 26.

γ. labelli lobis lateralibus obliquè truncatis dentatis acutis intermedio rotundato minoribus.

? O. morio. *Bieb. Fl. Taur. Cauc.* 2, 364.

Hab. in *Europæ Australioris* et *Barbariæ* pratis necnon *Tauriæ*; α. in Sicilia, *Gussone*, Algeria, *Desf.*, Italia, *Tenore*; β. in Gallia meridionali, *Loiseleur*, Helvetia, *Schleicher*; γ. in Russia meridionali, *Prescott* (*v. v. c. et hab. s. sp.*)

The small size of the lip, and the greater width of its middle than lateral lobes, taken together with the inflated apex of its long spur, abundantly distinguish this species. The French and Swiss specimens are paler than those from the south of Europe. In the genuine state of the species, as it occurs in Barbary and the south of Italy, the two lateral lobes of the lip are intensely purple and separated by a well defined line of colour from the middle lip; but in the varieties β. and γ. the purple is no darker than what is seen in O. morio. No two species can well be more distinct than this and O. morio, if they are once correctly understood.

*** *Labello 4-fido vel 4-partito.*

32. Orchis sphærica. *Bieb. Fl. Taur. Cauc.* 2, 362.

O. foliis omnibus lanceolatis acutis, spicâ subglobosâ, sepalis aristatis, labelli trilobi lobis lateralibus acutiusculis incurvis intermedio quadrato retuso apiculato subæqualibus, calcare labello breviore, bracteis lineari-subulatis herbaceis floribus brevioribus.

Hab. in *Iberia* media, Steven (*hab. s. sp. comm. cel. Prescott.*)

Reichenbach combines this with O. globosa; but it differs not only in the characters above mentioned, and in its white flowers, but also in its much narrower bracts, more aristate sepals, which never terminate in a blunt appendage, and in its broader and shorter labellum.

33. Orchis globosa. *Linn. Sp. Pl.* 1332.

O. folio inferiore oblongo obtuso superioribus lanceolatis acutis, spicâ subglobosâ, sepalis aristatis apice sæpè appendiculatis, labelli trilobi angusti lobis lateralibus truncatis divergentibus intermedio rhomboideo emargi-

nato cuspidato brevioribus, calcare labello breviore, bracteis lineari-lanceolatis herbaceis floribus brevioribus.

O. globosa. *Jacq. Fl. Austr. t.* 265. *Willd. Sp. Pl.* 4, 14. *Rchb. Pl. Crit. VI.* 767.
Nigritella globosa. *Rchb. Fl. Excurs.* 121. *Mayrhof. Dissert.* 31.
O. Halleri. *Crantz. Stirp. Austr.* 488.

Hab. in *Germania media* et *Australi,* et *Helvetia;* necnon in *Caucaso, Wilhelm* (*hab. s. sp.*)

Caulis in locis demissioribus pedalis et altior, in alpinis vix semipedalis, erectus, teres, foliosus. Bracteæ lanceolatæ virides, germen subæquantes. Flores leviter odori, colore O. variegatæ, plerumque resupinati, rariùs recti. Sepala ex purpureo carnea, ovata, longè acuminata, apice incrassata, medium brevius. Petala sepalis breviora, acutiora. Labellum perigonio concolor, punctis purpureis notatum; laciniæ laterales lineares, media latior, longior, emarginata ut plurimum cum denticulo in emarginatura. *Mayrhofer.*——Sepala et apex labelli sæpè in appendicem spatulatam laceram producuntur, quod non vidi in O. sphærica. Labellum punctis minutis acutis crystallinis pruinosum.

I do not perceive upon what ground this species has been referred to *Nigritella.* As limited by Richard, that genus is perfectly natural; but if its character is extended to receive this, it must then be merged in Orchis. The truly posterior labellum of Nigritella is very different from that of O. globosa, which is as often anterior as posterior, and has all the fleshiness of Orchis.

34. Orchis conica. *Willd. Sp. Pl.* 4, 14.

O. "labello tripartito, laciniâ mediâ elongatâ apice dilatatâ emarginatâ, petalis conniventibus aristatis, cornu germine breviore, spicâ densâ conicâ, foliis ovatis." *Willd.*

? O. globosa. *Brotero, Fl. Lus.*

Hab. in *Lusitania,* Link.

"Media ferè inter O. globosam et acuminatam." W.———. An O. variegatæ repellenda?

35. Orchis variegata. *Jacq. Ic. Rar. t.* 599.

O. foliis oblongo-lanceolatis acutis, spicâ corymbosâ, sepalis acuminatissimis, labello calcari rectiusculo pendulo æquali: laciniis denticulatis lateralibus obliquè truncatis intermediæ cuneatæ bilobæ subæqualibus, bracteis aristatis ovario longioribus.

O. variegata. *Hall. Helv. no.* 1275, *t.* 30. *Willd. Sp. Pl.* 4, 21. *De Cand. Fl. Fr.* 3, 248. *Bieb. Fl. Taur. Cauc.* 2, 366. *Bot. Reg. t.* 367. *Rchb. Fl. Excurs.* 124. *Mayrhofer Dissert. p.* 20.
O. tridentata. *Scopol.*

Hab. in *Europa Australi;* Gallia, *De Cand.;* Germania, *Rchb.; Sicilia, Tenore;* necnon in *Tauriæ* et *Caucasi* sylvis *Bieberst.* Iberiaque, *Steven* (*hab. s. sp.*)

Variat labelli laciniis lateralibus brevioribus, intermediâque altius fissâ O. militaris more; semper dignoscitur spicâ subcorymbosâ, bracteisque longis aristatis. Caulis 6-12 uncias altus. Folia immaculata. Flores violacei. "Petala cum sepalo impari intus linea atropurpurea, sepala lateralia duabus ejusmodi lineis notata. Labellum planum pallidè carneum, punctis crebris saturatè rubris eleganter variegatum. Calcar striatum." *Mayrh.*

36. ORCHIS taurica.

O. foliis oblongo-lanceolatis laxè vaginantibus in caulem ascendentibus, spica pyramidali, sepalis oblongis acutis, labello calcari rectiusculo subhorizontali æquali: laciniis integris lateralibus acutis apice incurvis intermediâ cuneatâ apice dilatatâ tridentatâ multò brevioribus, bracteis lineari-lanceolatis acuminatis ovario longioribus.

O. pyramidalis. *Bieb. Fl. Taur. Cauc.* 2, 363.

Hab. in *Tauriæ* et *Caucasi* nemorosis, *Bieberstein* (*hab. s. sp. comm. cel. Prescott.*)

O. variegatæ affinis, characteribus supra datis facile distinguenda. Flores purpurei sec. *Bieberst.*

37. ORCHIS militaris. *Linn.! Sp. Pl.* 1334.

O. foliis oblongo-lanceolatis acutis, spicâ cylindraceâ, sepalis acutis obtusisve, labello medio pubescente calcare pendulo incurvo v. rectiusculo duplò longiore: laciniis lateralibus linearibus intermediæ cruribus divergentibus truncatis pluriveniis, bracteis brevissimis.

α. *vera*; sepalis obtusis, labelli lacinia intermedia lineari biloba: cruribus plus minus oblongis divaricatis.

O. militaris. *De Cand. Fl. Fr.* 3, 248 (*a.*) *Jacq. Ic. Rar.* 4, *t.* 598. *Eng. Bot. t.* 2675. *Smith, Eng. Fl.* 4, 14. *Rchb. Pl. Crit.* 8, *t.* 701. *Fl. Excurs.* 125. *Mayrhof. Dissert.* 20.
O. cinerea. *Suter, sec. Rchb.*
O. Rivini. *Gouan, illustr.* 74. *Sweet, Brit. Fl. Gard.* 2, *t.* 162. *Hall. Helv. t.* 27, *sinistr.*

β. *galeata*; sepalis acutissimis, labelli laciniâ intermediâ cuneatâ bilobâ: cruribus brevibus truncatis.

O. galeata. *Lam. Dict.* 4, 593. *De Cand. Fl. Fr.* 3, 249. *Rchb. Fl. Excurs.* 125. *Tenore, Sylloge. p.* 454.
O. mimusops. *Thuillier, Fl. par.* 1, *p.* 458, *ex D. C.*
? O. militaris. *Bieberst. Fl. Cauc.* 2, 365. *Sweet, Brit Fl. Gard.* 2, *t.* 163. *Hall. Helv. t.* 28.

γ. *hybrida*; labello tripartito punctato-scabro, laciniis remotis linearibus mucrone intermedio elongato reflexo, calcare recto, *Bönningh. ex Rchb. Fl. Excurs.* 125 (Orchis hybrida.)

Hab. α. per omnem *Europam* mediam et temperatam; etiam in *Grusia, Steven, montibus altaicis, Fischer*; β. in *Germania Australi, Gallia,* et *Helvetia,* Rchb. D. C. Haller; γ. in *Thuringia* et *Bohemia,* Rchb. (*hab. α. et β. s. sp. et v. α. sp.*)

Caulis pedalis et ultra. Folia lucida, immaculata. Spica densa, oblonga, floribus nunquam siccatione fuliginosis. Bracteæ purpureæ. Flores lilacini, rosei, v. albi. Sepala sæpiùs venosa. Labellum medio decolor, apicibus coloratis, punctis quibusdam hispidis cruentis conspersum, per axin pubescens; mucrone longitudine et formæ vario inter crura interjecto.

There can, I think, be little doubt that the synonyms above quoted are rightly referred to this plant; it seems to me quite impossible to depend upon minute differences in the structure of the lip for the discrimination of species, and it is only in such circumstances that it has been pretended to distinguish them. O. galeata approaches O. variegata in the form of its lip, but it wants the long bracts of the latter species, and has altogether the habit of O. militaris. Of O. hybrida I have met with no specimen; and I should have suspected it to be rather a form of O. tephrosanthos, if Reichenbach had not compared it, on the one hand, with O. fusca, and on

the other, with O. militaris; adding, that the lip is "imprimis nervoso-lineatum."

The Orchis figured in Eng. Bot. t. 1873, referred by Mr. Bicheno to O. militaris, by Dr. Hooker to O. tephrosanthos, and made a distinct species, O. Smithii, by Sweet, does not appear to me to represent any known species.

38. Orchis fusca. *Jacq. Austr. t.* 176.

O. foliis oblongis versus basin angustatis, spicâ longâ cylindraceâ multiflorâ siccatione fuliginosâ, sepalis ovatis obtusis, labello medio pubescente calcare brevi pendulo incurvo duplo longiore: laciniis lateralibus linearibus intermediâ obcordatâ, bracteis obsoletis.

O. fusca. *Hall. Helv. no.* 1276, *t.* 31. *Willd. Sp. Pl.* 4, 23. *Bieb. Taur. Cauc.* 2, 366. *Hooker, Fl. Lond. c. ic. Smith, Eng. Flora,* 4, 13. *Rchb. Fl. Excurs.* 125. *Mayrhof. Diss.* 21.
O. moravica. *Jacq. Ic. Rar.* 1, *t.* 182. *Rchb. l. c.*
O. purpurea. *Huds Fl. Angl. ed.* 1, *p.* 334.
O. militaris. *De Cand. Fl. Fr.* 3, 248. *Eng. Bot. t.* 16.

Hab. in *Gallia, Germania, Helvetia, Anglia;* nec non in *Tauria meridionali,* Bieb. (*hab. s. sp. et v. v.*)

Omnium Europæ Orchidum maxima et pulcherrima. Scapus pedalis, bipedalis et altior, crassus, firmus, supernè aphyllus. Folia maxima, rigidiuscula, splendentia. Spica omnium speciosissima, conferta, longa, ante anthesin atrofusca. Bracteæ parvæ. Perigonii phylla in galeam conniventia, extus atrofusca, intus pallidiora. Labellum planum, firmum, latum, candidum, punctis hispidis purpureis scabrum: laciniæ laterales divergentes, lineares, longæ, media anticè dilatata, biloba, segmentibus valde divergentibus antice sæpiùs serratis. *Mayrhofer.*

39. Orchis Comperiana. *Steven, Obs. in Pl. Ross. in Act. Mosq.* 7, *p.* 63, *t.* 12.

O. foliis ovato-lanceolatis, spicâ rariflorâ, sepalis obtusiusculis, labello quadrifido laciniis longissimis setaceis, calcare pendulo ovarii longitudine, bracteis ovario longioribus.

Hab. in nemorosis vallis Laspi, *Tauriæ meridionalis,* Steven.

Planta speciosissima facie ferè Himantoglossi hircini; an ejusdem generis?

40. Orchis longibracteata. *Bivona, Cent. Sic.* 1, *no.* 66, *t.* 4.

O. foliis oblongis basi angustatis, spicâ longâ multiflorâ, sepalis obtusissimis patulis, labello carnoso basi crispo calcare brevi crasso conico quadruplo longiore; laciniis obtusis crenatis, bracteis florem excedentibus.

α. Sicula; laciniis labelli lateralibus abbreviatis.

O. longibracteata. *Bot. Reg. t.* 357. *Rchb. Fl. Excurs.* 125.

β. Gallica; laciniis labelli lateralibus linearibus elongatis.

O. Robertiana. *Lois. Fl. Gall. p.* 606.

Hab. in *Sicilia, Italia,* et *Gallia meridionali* (*hab. s. sp.*)

Species habitu O. fuscæ, sed flores duplo majores, viridi-purpurascentes labio pallido fusco marginato rubro maculata.

In O. longibracteata sicula flores minores sunt quam in O. Robertiana; species tamen distingueri vix merentur.

41. ORCHIS undulatifolia. *Bivona, Cent.* 2, *n.* 61, *c. ic.*

O. foliis oblongo-lanceolatis undulatis obtusis, spicâ crassâ subcorymbosâ, sepalis acuminatis, labello calcare pendulo incurvo triplo longiore: laciniis omnibus linearibus acuminatis, bracteis brevissimis.

O. undulatifolia. *Flora Græca, tab.* 927. *Rchb. Fl. Excurs.* 124.
O. tephrosanthos. β. undulatifolia. *Bot. Reg. t.* 375.
O. tephrosanthos. *Desf. Fl. Atl.* 2, 318.

Hab. per omnem *Europam meridionalem;* circa *Constantinopolim,* Domina *Liston;* in *Barbaria,* Desf. (*hab. s. sp.*)

42. ORCHIS longicruris. *Link. in Schrad. Diar.* 1799, *p.* 323. *Willd. Sp. Pl.* 4, 22. *Tenore Sylloge. p.* 454.

Hab. in *Lusitania,* Link.; in nemoribus *Lucaniæ,* Tenore.

Ab. *O. undulatifolia* differt foliis planis ovatis, floribus purpureis duplo minoribus, labii laciniis angustioribus, spicâ pyramidatâ non globosâ. Ab. *O. tephrosanthos* labii laciniis rectis lanceolatis acuminatis facillimè dignoscitur. *Tenore, l. c.*

43. ORCHIS tephrosanthos. *Villars, Delph.* 2, 32.

O. foliis oblongo-lanceolatis acutiusculis, spicâ cylindraceâ crassâ, sepalis acuminatis, labello medio hispido calcare pendulo incurvo duplò longiore: laciniis linearibus cruribus intermediæ univeniis, bracteis brevibus obtusis.

α. *vera;* laciniis filiformibus acutis.

O. tephrosanthos. *Desf. Atl.* 2, 319. *Willd. Sp. Pl.* 4, 21. *Rchb. Fl. Excurs.* 124. *Bieb. Taur. Cauc.* 2, 364. *Hooker, Bot. Mag.* 3426.
O. simia. *Lam. Dict.* 4, 593. *De Cand. Fl. Fr.* 3, 249.
O. zoophora. *Thuill. Fl. par.* 1, 459.
O. cercopitheca. *Lam. Dict.* 4, 593.

β. *macrophylla;* cruribus abbreviatis truncatis.

Hab. α. in *Gallia; Germania; Helvetia;* necnon *Caucaso* et *Iberia* prope Tiflin, *Prescott;* β. *Caucaso, Wilhelm.* (*hab. s. sp.*)

O. militari similis, sed minor et cruribus labelli constanter univeniis angustissimis linearibus facilè distinguenda. Flores lætiùs colorati magisque variegati.

44. ORCHIS macra. *Lindl. Synops. ed.* 2, *p.* 260.

O. foliis lineari-oblongis obtusis, spicâ angustâ paucillorâ, sepalis acuminatissimis, labello calvo crystallino-verrucoso calcare pendulo rectiusculo duplò longiore: laciniis linearibus acutis cruribus intermediæ univeniis, bracteis brevibus acuminatis.

O. tephrosanthos. *Bicheno in Linn. Trans. XII.* 33. *Hooker, Fl. Lond. c. ic. Smith, Eng. Fl.* 4, 16. *Hooker, British Flora,* 371.

Hab. in *Anglia.* (*h. s. sp. comm. cel. Bicheno.*)

Caulis gracilis subpedalis, foliis sæpius versus apicem parum angustatis obtusis. Spica macra, pauciflora. Flores pallidè purpurei, rosei, vel albi sanguineo punctati.

45. ORCHIS punctulata. *Steven in Herb. Hooker.*

O. foliis oblongis obtusis superioribus angustioribus, spicâ cylindraceâ, sepalis acuminatis, labello medio pubescente carnoso calcare incurvo

apice dilatato triplò longiore: laciniis lateralibus linearibus incurvis intermediâ cuneatâ retusâ cum apiculo, bracteis brevissimis.

Hab. in *Tauria meridionali, Steven.* (*exam. s. sp. in herb. Hooker.*)

Valde affinis *O. militari;* sed differre videtur calcare minus acuto, spicâ minus densâ. Laciniæ laterales labelli intermediâ breviores, læves nec papillosæ, univeniæ.

46. Orchis intacta. *Link. in Schrad. Diar.* 1799, *p.* 322.

O. spica densiuscula, sepalis conniventibus acutis, labello tripartito laciniis subæqualibus intermediâ lineari apice tridentatâ, calcare brevissimo, bracteis ovario duplò brevioribus.

O. intacta. *Willd. Sp. Pl.* 4, 21.

Hab. in *Lusitania,* Link.

Accedere dicitur ad *O. tephrosanthos,* inter alia flore multo minore differt.

47. Orchis ustulata. *Linn.! Sp.* 1333.

O. foliis ovato-oblongis acutis, spicâ angustâ cylindraceâ densâ obtusâ, sepalis ovatis obtusis, labello calcare brevi uncinato triplo longiore: laciniis punctato-scabris linearibus intermediæ bilobæ cruribus truncatis, bracteis acuminatis ovario longioribus.

O. ustulata. *Willd. Sp. Pl.* 4, 20. *Eng. Bot. t.* 18. *Hooker, Fl. Lond. c. ic. Eng. Flora,* 4, 12. *De Cand. Fl. Fr.* 3, 247. *Rchb. Pl. Crit.* 6, *t.* 569. *Fl. Excurs.* 124. *Mayrhof. Diss.* 19.
O. amœna. *Crantz. Austr. p.* 490.
O. Columnæ. *Schmidt. Bohem. no.* 58, *sec. Rchb.*
? O. imbricata. *Vest. sec. Rchb.*
O. parviflora. *Willd. Sp. Pl.* 4, 27, *fide Tenorii, App. Pr.* 65.
Himantoglossum parviflorum. *Spreng. Syst.* 3, 694.

Hab. in *Europa; Angliæ, Galliæ, Germaniæ, Helvetiæ* pratis et montibus sæpius in solo cretaceo. (*v. v. sp. et h. s. sp.*)

Palmaris. Galea purpureo-viridis; labellum cinereum maculatum. Labellum aliquando duplò latius est, laciniis lateralibus biveniis truncatis.

Species dubia.

Orchis hyemalis. *Rafinesque in Museum of Nat. Sc. of the American Monthly Magazine and Critical Review, New York,* 1817, as quoted by himself in Florula Ludoviciana, 168.

Hab. in *Sicilia.*

CLXX. ANACAMPTIS.

Anacamptis. *Richard, Orch. Europ.* 25.

Omnia Orchidis; sed lamellæ 2 ad basin labelli, nunc in unam coalitæ. Labellum semper 3 lobum.

1. Anacamptis pyramidalis. *Rich. l. c.*

A. spicâ densâ pyramidali, labelli lobis subæqualibus intermedio truncato: lamellis distinctis apice divergentibus.

Orchis pyramidalis. *Linn. &c.*
Orchis condensata. *Desf.! Fl. Atl.* 2, *p.* 316. *Willd. Sp. Pl.* 4, 32.
Orchis brachystachys. *D'Urville in Act. Linn. par.* 1, 377.

Hab. per omnem *Europam* mediam et australem; etiam in *Atlantide.* (*v. v. sp.*)

Orchis condensata, a Desf. ipso in herb. Lehmann, nullo modo differt ab *A. pyramidali.*

2. ANACAMPTIS quadripunctata.

A. " labio trilobo plano lobis æqualibus, medio subemarginato subquadripunctato, petalis patentibus ovalibus obtusis, cornu recto filiformi germine longiore, spicâ multiflorâ oblongâ, floribus minutis bracteisq. concoloribus rubris violaceisque." *Tenore.*

Orchis 4-punctata. *Ten. Fl. Neap. Prodr. Pr.* 53. *Fl. Neap.* 2, 291, *t.* 89. *Syll.* 452.

Hab. in pascuis montosis *Apuliæ,* Tenore; in *Creta, Zuccarini.* (*v. s. sp. in herb. Martii.*)

Differt ab *A. Brancifortii* sec. cel. Tenore calcare ovario longiore, labelli lobo medio lateralibus æquali, sepalis lateralibus intermedio longioribus.

I have examined a single specimen of this rare plant in the Herbarium of Dr. von Martius, and it certainly agrees with the observations of M. Tenore. I, however, doubt very much whether it can be considered more than a variety of *A. Brancifortii.*

3. ANACAMPTIS Brancifortii.

A. spicâ laxâ elongatâ, labelli lobis omnibus acutis: lamellis in unam hippocrepicam coalitis.

Orchis bipunctata. *Raf. in Journ. Bot.* 4, 272, *sec. Raf. ipsum. Bivona! in Herb. Smith.*
Orchis Brancifortii. *Bivon. Pl. Sic.* 1, *t.* 1, *f.* 2. *Tenore, Syll. p.* 452.

Hab. in *Sicilia,* Bivona, &c. (*hab. s. sp. comm. cel. Tineo.*)

Planta palmaris. Folia omnia radicalia. Bracteæ oblongæ, cuspidatæ, purpureæ ovario duplò breviores. Flores parvi petalis convergentibus sepalis duplò minoribus.

CLXXI. GYMNADENIA.

Gymnadenia. *R. Brown in Hort. Kew.* 5, 191. *Rich. Orch. Annot.*

Flos Orchidis. Loculi antheræ paralleli, contigui, basi nunquam elongati; rostello minimo complicato. Pollinia glandulis nudis.

It is scarcely possible to find any very precise limits between this genus and Platanthera; nor is there any character that can be trusted, except the plicature of the rostellum and the parallel *contiguous* bases of the anther-cells. Even the stigmatic processes of *Habenaria* and its allies are to be remarked in almost every species of *Gymnadenia;* only in most cases in adhesion with the stigma itself.

1. GYMNADENIA conopsea. *R. Br. in Hort. Kew.* 5, 191.

G. foliis angustis obtusis in caule acuminatis, spicâ densâ cylindraceâ, sepalis lateralibus patentibus, labelli trilobi lobis obtusis integerrimis æqualibus, calcare arcuato filiformi ovario duplò longiore.

Orchis conopsea. *Linn. Sp. Pl. Willd. Sp. Pl.* 4, 32. *Eng. Bot. t.* 10. *Fl. Dan. t.* 224. *Hooker in Fl. Lond. c. ic.*
Satyrium conopseum. *Wahl. Fl. Suec.* 557.
Orchis ornithis. *Jacq. Austr. II. t.* 138. *Willd. Sp. Pl.* 4, 32.

Gymnadenia ornithis. *Richard, Annot.* *Richb. Fl. Exc.* *Mayrhofer, Dissert. p.* 28.

β. *densiflora ;* spicâ prælongâ cylindraceâ, lobo intermedio labelli cuneati minore.

Orchis densiflora. *Wahlenb. Vet. Act. Holm.* 1806, *p.* 68.
Satyrium conopseum, β. *Wahl. Fl. Suec.* 558.

Hab. in pascuis *Europæ* et *Asiæ* temperatæ. β. in locis fertilissimis insularum *Gotlandiæ* et *Oelandiæ* copiosè. (*v. a. v. sp.* ; *v.* β. *s. sp. in herb. Lehmann.*)

Calcar germine sæpe duplò longius, sed interdum ex. gr. in paludibus Lapponiæ eodem revera brevius, ut in ejus longitudine vix differentia speciei, multo minus character generis. *Wahl.*

I have no hesitation in considering the *O. ornithis* of Jacquin a mere white-flowered variety ; it appears from Mayrhofer that it has never been seen since three specimens were gathered in 1774 on Mount Schneeberg ; and it is evident that its real distinction from *G. conopsea* consists in its supposed oval and undivided tubers ; but it is more probable that the figure in the Flora Austriaca is inaccurate in this respect, than that the species should, if it really exists, have never been rediscovered for more than half a century.

2. Gymnadenia humilis.

G. foliis lineari-oblongis acutis, spicâ laxâ pauciflorâ, sepalis petalisque ovatis obtusis, labello subrotundo trilobo sepalis æquali : lobis rotundatis medio emarginato, calcare subulato ovario elongato vix æquali, bracteis lineari-subulatis ovario brevioribus, tuberculis indivisis.

Orchis Nicodemi. *Tenore, Fl. Neap. Prodr. p.* 53. *Fl. Neap.* 2, *p.* 290, *t.* 90. *Sylloge, p.* 453.
Orchis Hostii. *Tratt. ex Rchb. Fl. Exc.* 123.

Hab. in pascuis siccis *Apuliæ,* Tenore ; *Dalmatia,* Rchb. (*exam. s. sp. in Hb. Lehm.*)

Sic vidi in exemplare a capite Malessa in herb. Lehm. Planta humilis est et gracilis facie *G. conopseæ* depauperatæ. Calcar quod sec. cel. Tenorium horizontale est, et cel. Reichb. ovario longius, invenio subulatum dependens ovario longissimo brevius. An planta Reichenbachiana omnino eadem. Descriptionem laudati auctoris subjungo.

" Habitus *O. masculæ* sed humilior ; folia breviora, superiora arctè vaginantia, spicâ laxâ, flores minores teneriores purpurei sepalis obtusis, labio breviore, calcare ovarioque longissimo gracili distinctissima." *Rchb.*

It is impossible to reconcile the two foregoing accounts of this plant. But I suspect that *Anacamptis 4-punctata* is sometimes called *Orchis Nicodemi ;* at least, a specimen of it so labelled is in Smith's Herbarium ; and if so, it is not improbable that the plant which Rchb. had in view was *Anacamptis 4-punctata.*

3. Gymnadenia comigena. *Rchb. Fl. Exc.* 121.

G. " labio trilobo calyce breviore lobis lateralibus divaricatis, calcare ovarium æquante." *Rchb.*

Hab. in *Thuringia,* Rchb.

" Habitus *G. conopseæ* sed robustior et flores ex omni parte breviores, unde

spica insigniter condensata; bracteæ longè ultra alabastra productæ, demum ovarium subæquantes."

4. Gymnadenia? elata.

G.? labello obcordato crenato, cornu subulato dependente.

Orchis elata. *Poiret. Itin.* 2, *p.* 248. *Desf. Atl.* 2, 317. *Willd. Sp. Pl.* 4, 26.

Hab. in *Barbaria*, Poiret.

Caulis 2-pedalis et ultra. Spica florum 8-pollicaris. Flores densè conferti violacei. Bracteæ lanceolatæ floribus multo longiores. Labellum emarginatum, denticulatum, obcordatum. Calcar longum, subulatum, pendulum, cauli admotum.

5. Gymnadenia sibirica. *Tourchaninoff MSS.*

G. foliis angustis obtusis in caule acuminatis, spicâ densâ cylindraceâ, sepalis lateralibus patentibus, labelli trilobi lobis subæqualibus lateralibus rotundatis crispis intermedio integerrimo acutiusculo, calcare arcuato filiformi ovario longiore.

Hab. in *Siberia*, *Tourchaninoff*. (*hab. s. sp. comm. cel. Prescott.*)

Fortè mera *G. conopseæ* varietas, diversa tamen labello.

6. Gymnadenia odoratissima. *Rich. Annot.*

G. foliis angustis acutis in caule acuminatis sæpè gramineis, spicâ densâ cylindraceâ, sepalis lateralibus patentibus, labello oblongo rotundato plano obscurè trilobo, calcare filiformi ovario breviore.

Orchis odoratissima. *Linn. Sp. Pl.* 1335. *Jacq. Fl. Austr. t.* 264. *Willd. Sp. Pl.* 4, 32.
Gymnadenia odoratissima. *Rchb. Pl. Crit. VI. t.* 814. *Fl. Exc.* 121. *Mayrhofer, Dissert.* 26.
Satyrium odoratissimum. *Wahl. Fl. Suec.* 557.

β. spicâ laxiore, bracteis magis foliaceis, floribus paulo majoribus.

O. erubescens. *Zuccarini!*
G. suaveolens. *Rchb. Fl. Exc. p.* 121, *excl. synon. Villarsii ad Nigritellam fragrantem pertinente.*

γ. labello latiore lobis distinctis rotundatis.

O. iberica. *Prescott in Litt. vix. Bieb.*

Hab. in pascuis apricis subalpinisque *Europæ* mediæ *Asiæque* occidentalis; β. in alpibus *Germaniæ*. (*h. s. sp.*)

7. Gymnadenia tridentata.

G. folio solitario radicali oblongo obtuso; caulinis 2-3 multò angustioribus et minoribus, spicâ brevi laxiusculâ, sepalis campanulatis, labello plano truncato obsoletè tridentato sepalorum longitudine, calcare filiformi arcuato ovario paulò longiore.

Orchis tridentata. *Willd. Sp. Pl.* 4, 41. *Pursh. Fl.* 2, 587.
Habenaria tridentata. *Hooker, Exot. Fl. t.* 81.
Orchis clavellata. *Mich. Fl. Am. Bor.* 2, 155. *Willd. Sp. Pl.* 4, 10. *Pursh. Fl.* 2, 586. *Nutt. Gen.* 2, 189. *Elliott, Sketch.* 2, 486.

Hab. in *America septentrionali*: *Georgia* et *Carolina*, Michaux, Elliott; *Canada*, Goldie. (*exam. s. sp. in hb. Boott.*)

It appears from the researches of Dr. Boott, that *Orchis clavellata* and *tridentata* ought probably to be reduced to one species. This gentleman has been so obliging as to favour me with the following note upon the subject.

"I have specimens of *O. clavellata* from Nuttal, marked on his ticket '*O. tridentata*,' and on reference to his book I find he gives it as a variety of *O. clavellata*, not admitting, therefore, Michaux's plant 'labello integro,' as observed by himself.

"Elliott quotes *O. tridentata* as a synonym of his *O. clavellata*, and, giving Michaux's character, as the specific one, says, from his own observation, that the labellum is 'slightly three-toothed at the summit.'

"Willdenow merely copies Michaux for *O. clavellata*.

"I suspect, therefore, that there is an error in Michaux's description of the plant, viz. that he has overlooked the toothed extremity of the labellum, and that his specimen was small, which his 'scapo unifolio' leads me to suspect.

"Eaton, in his Manual, gives *O. tridentata* as a synonym of *O. clavellata*; and I observe in a Catalogue of Plants made in Kentucky by Dr. Short, that he has the *O. tridentata*, a situation near Elliott's habitat for his *O. clavellata*; viz. 'the middle and upper districts of Georgia and Carolina.'

"All this amounts to a probability of the *tridentata* being the same as Michaux's plant. If distinct, it would seem no one has met with the true *clavellata* since Michaux, not even Elliott."

8. Gymnadenia cylindrostachya. *Lindl. in Wall. Cat. no.* 7056.

G. caule folioso, foliis oblongo-lanceolatis basi angustatis, spicâ densâ cylindraceâ, sepalis lateralibus pendulis, petalis rhomboideis hinc in angulo acuto productis, labello oblongo trilobo: lobis lateralibus acutis intermedio rotundato medio unicalloso, calcare filiformi ovario longiore.

Hab. in *India septentrionali* (loco incerto) *Wallich.* (*h. s. sp. e mus. Ang. Ind.*)

Obs. Calli adsunt duo ad basin labelli. Lobi laterales stigmatis molles et succulenti.

9. Gymnadenia violacea.

G. caule folioso, foliis oblongis acutis parùm decrescentibus, spicâ densâ oblongâ, bracteis foliaceis floribus longioribus, sepalis patulis lateralibus acutis, petalis oblongis obtusis, labello subrotundo tridentato, calcare filiformi pendulo ovario longiore.

Hab. in *India septentrionali*, agro Mussunensi, *Royle.* (*exam. s. sp. et v. ic. pict. in hb. Royle.*)

Folia atroviridia. Flores plumbeo-violacei unicolores. Exemplar unicum vidi.

10. Gymnadenia Orchidis.

G. caule folioso, foliis oblongis erectis acutis, spicâ densâ cylindraceâ, bracteis foliaceis floribus longioribus, sepalis obtusis patulis, petalis oblongis obtusis, labello subcuneato trilobo lobis subæqualibus truncatis denticulatis, calcare filiformi pendulo ovario longiore.

Platanthera Orchidis. *Lindl. in Wall. Cat. no.* 7039.

Hab. *Gossainthan* et *Kamoon, Wallich.* (*hab. s. sp. e mus. Angl. Ind.*)

11. Gymnadenia? flexuosa. *Ach. Rich. Orch. Maur.* 27.

G. foliis binis radicalibus erectis secundis (?), caule flexuoso bisquamato,

spicâ brevi ovatâ, labelli trilobi lobis obtusis, calcare filiformi labelli longitudine.

Satyrium flexuosum. *Thouars. t. 7.*

Hab. in *Mauritio,* Thouars.

Cum sequente, generis valdè incerti; an *Peristyli* species.

12. Gymnadenia rosellata. *Ach. Rich. Orch. Maur. 27.*

G. foliis pluribus ovato-oblongis acutis rosulatis, caule vaginato, spicâ angustâ, labelli trilobi lobis obtusis, calcare filiformi ovario breviore.

Satyrium rosellatum. *Thouars. t. 8.*
Habenaria Mascaranensis. *Spreng. syst.* 3. 690.

Hab. in *Borbonia,* Thouars.

Flores minuti. An hujus generis? an Platanthera? Secundum Ach. Richard genitalium fabrica eadem ac in Cynorchidibus quibusdam.

13. Gymnadenia cucullata. *Rich. Annot. Reichenb. Pl. crit. v.* 1. *t.* 816.

G. foliis radicalibus 2 oblongis aut orbiculato-ovatis submembranaceis, caule vaginâ solitariâ acuminatissimâ, spicâ secundâ, sepalis petalisque erectis in galeam cohærentibus, labello tripartito horizontali lobis filiformibus intermedio lineari longiore, calcare ascendente obtuso labello supposito et breviore.

Orchis &c. *Gmelin fl. sib.* 1. *p.* 16. *t.* 3. *f.* 2.
Orchis cucullata. *Linn. sp. pl.* 1332. *Willd. sp. pl.* 4. 13. *Ledeb. fl. alt.* 4. 170.
Himantoglossum cucullatum. *Rchb. fl. excurs.* 120.

Hab. in muscosis rupium *Europæ* orientalis et omnis *Siberiæ.* (*hab. s. sp. comm. cel. Prescott.*)

41. Gymnadenia flava.

G. folio inferiore ensiformi stricto ferè caulis longitudine: caulinis multo minoribus canaliculatis acuminatis supremis minimis, spicâ densissimâ conico-cylindraceâ, labello oblongo acuto margine denticulato calcare pendulo infundibulari apice incurvo subæquali.

Orchis flava. *Nutt. gen. am.* 2. 188. *Elliott Sketch* 2. 485.
Habenaria Elliottii. *Beck Bot. N. et. M. Amer.* 348.
Orchis integra. *Nutt. gen. Amer.* 2. 188.
Habenaria integra. *Spreng. Beck. l. c.*

Hab. in locis depressis; *Pennsylvaniæ, Boott; Carolinæ et Georgiæ,* Elliott; *New Jersey,* Nuttall; *Alabama,* Drummond; *Florida, Alden.* (*hab. s. sp. comm. cel. Boott, Torrey, &c.*)

I discover no difference worth noting between the two supposed species here united: the lip in *G. integra* is perhaps a trifle more entire than in *G. flava.*

15. Gymnadenia macrantha.

G. caule folioso, foliis oblongis acutis patentibus, spicâ laxâ, bracteis foliaceis floribus æqualibus, sepalis angustis patentibus acutis, petalis subfalcatis, labello obcordato convexo calcari crasso infundibulari pendulo acuto subæquali.

Hab. in *Sierra Leone, Domina Turner.* (*exam. s. sp. in herb. Hooker.*)

Caulis sesquipedalis. Flores maximi, lilacini, distantes; labellum ferè unciam longum. Anthera omnino Gymnadeniæ, auriculis duabus ut in Habenariis.

16. Gymnadenia Chusua. *Lindl. in Wall. cat. no.* 7058.

G. caule 1-2-phyllo, foliis ovato-lanceolatis acutis, spicâ secundâ 3-5-florâ, bracteis foliaceis acuminatis floribus longioribus, sepalis lateralibus reflexis, labello oblongo convexo 3-lobo lobis subæqualibus lateralibus denticulatis, calcare recto apice incrassato paulo breviore.

Gym. puberula. *Lindl. in Wall. cat. no.* 7059.
Orchis chusua. *Don. prodr. nep.*

Hab. in *Gossain Than, Wallich.* (*hab. s. sp. e. mus. Angl. Ind.*)

Caulis vix ultra spithamam altus, sæpè brevior. Flores majusculi. Labellum ferè semunciam longum.

17. Gymnadenia pauciflora.

G. caule 2-phyllo bifloro, foliis lineari-lanceolatis distantibus internodiis brevioribus, bracteis ovato-lanceolatis foliaceis floribus subremotis longioribus, sepalis acutis lateralibus reflexis, petalis conniventibus obtusis, labello cuneato quadridentato pubescente calcare subhorizontali rectiusculo breviore.

Orchis pauciflora. *Fisch. Mss.*

Hab. in *Dahuria, Fischer.* (*hab. s. sp. comm. cel. Fischer.*)

Spithamæa. Folium majus 2 poll. longum. Flores violacei magnitudine G. Chusuæ. (Tubercula dicuntur globosa minuta, *Fischer.*)

18. Gymnadenia spathulata.

G. caule nudo folii solitarii spathulati obtusi longitudine, spicâ densâ secundâ 3-4-florâ, bracteis foliaceis obtusis floribus longioribus, sepalis petalisque obtusis, labello oblongo concavo crenulato calcare recto duplo longiore.

Hab. in *India septentrionali,* in Kedarkanta, *Royle.* (*hab. s. sp. comm. cel. Royle.*)

§ *Labellum posticum.*

19. Gymnadenia conica.

G. foliis linearibus acuminatis sensim in squamis acuminatis angustatis, racemo conico, sepalis lateralibus contortis petalisque obtusissimis, labello postico lineari, calcare ascendente filiformi, ovario recto.

Hab. in *Florida, Cozzens.* (*exam. s. sp. in herb. Torrey.*)

Facies omnino *G. niveæ,* qua differt floribus aureis, labello lineari, sepalis lateralibus minoribus spicâque conicâ. Ovarium etiam pruinâ eget, et processus papillis; auriculæque antheræ formam ovatam habent nec transversam obtusissimam,

20. Gymnadenia nivea.

G. foliis linearibus acuminatis sensim in squamis acuminatis angustatis, racemo denso cylindraceo, sepalis lateralibus contortis supremo petalisque obtusissimis patentibus duplo majoribus, labello postico ovato, calcare ascendente filiformi, ovario recto.

Habenaria nivea. *Spreng. syst.* 3.
Orchis nivea. *Nutt. gen. Amer.* 2, 188. *Elliott Bot. Carol. et Georg.* 2, 485.

Hab. in *Florida occidentali* Nuttall; *Georgia,* prope Sunbury *Le Comte.* (*hab. s. sp. comm. cel. Torrey.*)

Sesquipedalis, gracilis, facie exemplaris macilenti *Gymnadeniæ flavæ*

Flores parvi, nivei. Sepala et petala membranacea. Anthera minima; auriculis duabus (st. ster.) magnis latis. Processus carnosi os calcaris tegentes, acuti, intus papillosi. Ovarium pruinosum.

CLXXII. PERULARIA.

Perularia. *Lindl. in Bot. Reg.* 1701.

Sepala lateralia deflexa. Petala carnosa, sepalo supremo libera. Labellum calcaratum, carnosum, integrum. Anthera recumbens, nana. Polliniorum glandulæ in bursiculis duabus distantibus bivalvibus inclusæ. Rostellum plicatum.—Herba Orchidis.

1. Perularia fuscescens.

Orchis fuscescens. *Linn. Sp. Pl.* 1336. *Willd. Sp. Pl.* 4, 35.
Orchis, &c. *Gmel. Fl. Sib.* 1, *p.* 20, *t.* 4. *f.* 2.

Hab. in *Sibiria* prope fl. *Lenam* et *Ircutum* Gmelin; ad *Baicalem, Prescott.* (*hab. s. sp. comm. cel. Prescott.*)

Planta facie *Platantheræ bifoliæ brachyglossæ.* Floris partes omnes carnosæ. Sepalum supremum rotundatum, crenulatum; lateralia pendula oblonga obtusa. Petala erecta, retusa. Labellum carnosissimum medio elevatum et serie unicâ tuberculatum, basi utrinque auriculis duabus acutis divaricatis; hinc quasi hastatum. Calcar pendulum, clavatum labello longius.

CLXXIII. NIGRITELLA.

Nigritella. *Rich. Orch. Europ.* 26. *fig.* 4.

Sepala petala et labellum subconformia, omnia membranacea, hoc posticum indivisum scrotiformi-calcaratum, concavum. Anthera Orchidis, sed glandulæ seminudæ.—Folia graminea. Flores congesti, capitati.

1. Nigritella angustifolia. *Richard. Annot.* 34.

N. foliis linearibus, calcare brevissimo.

α. atropurpurea.

Satyrium nigrum. *Linn. Mant.* 488. *Jacq. Fl. Austr. t.* 368.
Orchis nigra. *Swartz. Act. Holm.* 1800, *p.* 207. *Willd. Sp. Pl.* 4, 35.
Orchis miniata. *Crantz. Stirp. Austr.* 487.
Habenaria nigra. *R. Br. H. Kew.* 5, 192.
Nigritella angustifolia. *Rchb. fl. crit. VIII. f.* 1009. *Fl. Exc.* 121. *Mayrh. Dissert.* 31. *Lodd. Bot. Cab. t.* 1643.

β. rosea.

Hab. in alpibus *Europæ*; β in *Gallia* meridionali, *Bentham.* (*hab. s. sp.*)

2. Nigritella fragrans. *Rchb. Pl. crit. VIII. f.* 1010. *Fl. Exc.* 121.

N. foliis lineari-lanceolatis, calcare arcuato ovario fusiformi subæquali.

Orchis suaveolens. *Vill. Delph.* 2. *t.* 1. *De Cand. Flore Française.* 6. 331.

Hab. in alpibus *Delphinatus,* Villars, (et *Tyrolensibus, Carinthiacisque* Reichb. ?)

Reichenbach quotes the Orchis suaveolens of Villars to his Gymnadenia suaveolens; but surely there can be no doubt that this was the plant intended by Villars.

CLXXIV. ACERAS.

Aceras. *R. Brown, in Hort. Kew. ed.* 2. 5. 191. Loroglossum. *Rich. Orch. Eur. Annot.* 32. Himantoglossum. *Spreng. Syst.* 3. 694.

Perianthium clausum, æstivatione valvatâ. Petala sepalis multò angustiora. Labellum brevissimè saccato-calcaratum, v. gibbosum, pendulum v. patens, tripartitum. Anthera erecta, bilocularis, loculis parallelis basi approximatis, caudiculis glandulæ solitariæ cucullo unico inclusæ adhærentibus.——Herbæ, radicibus carnosis fasciculatis, lobo uno alterove incrassato. Flores luteo-herbacei, v. obscurè violacei, labello sæpè maculato discolore.

1. Aceras hircina.

A. foliis oblongis acutis, racemo multifloro, labello longissimo flexuoso spiralique 3-partito laciniis lateralibus abbreviatis intermediâ bifidâ, calcare brevissimo obtuso.

Satyrium hircinum. *Linn. Sp. Pl.* 1337. *Eng. Bot. t.* 34.
Orchis hircina. *Swartz Act. Holm.* 1800. *p.* 207. *Willd. Sp. Pl.* 4. 28.
Loroglossum hircinum. *Richard. l. c.*
Himantoglossum hircinum. *Spreng. syst.* 3. 694.

Hab. per omnem *Europam* mediam et temperatam in pratis siccis. (*hab. s. et. v. v. sp.*)

2. Aceras caprina.

A. " labello tripartito : lineâ baseos mediâ subpubescente, laciniis lateralibus falcato-lanceolatis ; mediâ lineari longissimâ apice bifidâ, petalis obtusis conniventibus, nectario scrotiformi." *Bieb.*

Orchis caprina. *Bieb. Fl. Taur. Cauc.* 3. 602.
Himantoglossum caprinum. *Spreng. syst.* 3. 694.

Hab. in *Tauria,* Bieberstein.

3. Aceras formosa.

A. " radicibus testiculatis, labello trilobo ; lateralibus brevibus repando-undulatis medio elongato lineari-spatulato emarginato, petalis conniventibus : interioribus erosis, cornu germine paulo breviore." *Bieb.*

Orchis formosa. *Steven in Act. Linn. vol.* XI. *p.* 417. t. 39. *Bieb. Taur. Cauc.* 3. 603.
O. mutabilis. *Stev. Mem. Mosq.*

Hab. in *Caucaso Orientali,* Steven, Bieberstein.

4. Aceras anthropophora. *R. Br. in H. K. l. c.*

A. foliis oblongis obtusis plerisque radicalibus, labello 4-partito plano laciniis linearibus lateralibus paulò brevioribus.

α. labello ovario longiore.

Ophrys anthropophora. *Linn. sp. Pl.* 1343. *Willd. sp. Pl.* 4. 63. *Eng. Bot. t.* 29.
Loroglossum anthropophorum. *Richard. l. c.*
Himantoglossum anthropophorum. *Spreng l. c.*

β. labello ovario duplò breviore.

Ophrys anthropomorpha. *Willd. sp. pl.* 4. 63.
Aceras anthropomorpha. *Smith in Recs. Suppl.*
Loroglossum brachyglotte. *Richard. l. c.*

Hab. per omnem *Europam* ; *β.* in *Lusitania, Link.* (*v. v. sp.*)

5. Aceras angustifolia. *Lindl. in Wall. cat. Ind. no.* 7061.

A. foliis lineari-lanceolatis acuminatis, spicâ rarâ elongatâ secundâ parvi-

florâ, petalis subulatis, labello pendulo lineari sepalis duplò longiore apice trifido: laciniâ intermediâ breviore. *Bot. Reg. t.* 1525.

Hab. in *Gossain Than, Wallich.* (*hab. s. sp. e. Museo Anglo-Indico.*)

6. Aceras secundiflora. *Lindl. in Bot. Reg. t.* 1525.

A. foliis maculatis, spicâ densâ secundâ parviflorâ, petalis subulatis, labello patente oblongo sepalis æquali basi gibboso trilobo: lobo intermedio obovato mucronulato.

Satyrium maculatum. *Desf. Fl. Atl.* 2. *p.* 319. *sec. Cambessédes.*
Ophrys densiflora. *Desf. Coroll. p.* 11. *t.* 16.
Orchis secundiflora. "*Bertol. Amœn. Ital.* 82." *Cambess. enum. Pl. bal.* 140.
Himantoglossum secundiflorum. *Rchb. Fl. Exc.* 120.

Hab. in *Gallia australi, Italia,* insulis *Balearicis, Corsica, Barbaria,* Desf. necnon in *Madera, Lowe.* (*v. v. c. et hab. s. sp.*)

CLXXV. HOLOTHRIX.

Holothrix. *Richard Annot*. p. 33.

Sepala conniventia, æqualia. Petala libera, patula, sepalis majora. Labellum calcaratum, cum columna connatum, lobatum, concavum. Anthera erecta, loculis parallelis; glandulis polliniorum in bursiculis duabus segregatis insertis.——Herbæ parvæ (Capenses); foliis minutis radicalibus; caule esquamato; floribus herbaceis, minutis.

1. Holothrix parvifolia.

H. caule floribusque hirsutissimis.

Orchis hispidula. *Linn. suppl. p.* 40.
O. hispida. *Thunb. Fl. Capens.* 30.

Hab. in Africa Australi; in arenosis depressis extra Caput B. Sp. in summitate Taffelberg et rupibus lateris occidentalis ejusdem montis, Thunberg. (*hab. s. sp. Comm. cel. Bentham.*)

Herba vix 4-pollicaris, lanuginosa. Folia solitaria, subrotunda, minuta, gemina, hispida. Caulis esquamatus. Racemus strictus, floribus herbaceis magnitudine *Herminii Monorchidis.* Bracteæ apice in setas longissimas tubulosas divisæ. Petala torta, sepalis majora. Labellum infundibulare, calcare obconico horizontali, limbo concavo trifido: laciniis ovatis acutis. Obs. Flores glabri, salvis sepalis.

2. Holothrix exilis.

H. caule apice floribusque glaberrimo.

Orchidea exilis. *Burchell Cat. Geogr. no.* 6738-1.

Hab. in *Africa Australi, Burchell.* (*hab. s. sp. comm. cel. Burchell.*)

Planta gracilis 4-unc. alta. Folium 1, radicale, minimum, ovatum, recurvum, subtùs pilosum. Caulis filiformis strictus, rigidus, aphyllus, basi pilosus apice glaberrimus. Spica subspiralis, 5-6-flora. Flores minimi pilis aliquot rarissimis sparsis. Sepala membranacea, libera, secunda, obtusa. Petala carnosa, acuminata, obtusa, duplò longiora. Labellum concavum, basi membranaceum infundibulare ideoque calcaratum, apice carnosum trilobum; lobo intermedio producto acuminato obtuso.

CLXXVI. GLOSSASPIS.

Glossula. *Lindl. in Bot. Reg.* 862. Glossaspis. *Spreng. Syst.*

Sepala cum petalis conformibus galeata. Labellum tripartitum, calcare brevi inflato. Pollinia glandulis 2, cucullis duobus discretis inclusis. Rostellum maximum plicatum.———Herba foliis Orchidis. Flores parvi, virides, laciniis lateralibus labelli longissimis.

1. Glossaspis tentaculata. *Lindl. l. c. cum ic. sub* Glossula.

Hab. in *China. (v. v. c.)*

CLXXVII. PLATANTHERA.

Platanthera. *Richard. Orch. Diss.* 35.

Perianthium Orchidis. Calcar elongatum filiforme. Anthera loculis basi divergentibus. Glandulæ nudæ. Stigma labio superiore (rostello) plano, antheræ adnato; canalibus bases antheræ retinentibus. Processus carnosi o.———Herbæ habitu et indole Orchidis.

At first sight this genus would seem to be the same as a section of Habenaria proposed by Dr. Brown in his Prodromus, p. 312, and characterized by having the bases of the anther united lengthwise to the column; and for a long time I so regarded it. But as the bases of the anther are, in all undoubted Habenarias, united to the stigmatic canals, this character falls to the ground; and the genus has to depend upon another distinction, to which I can discover no exception; namely, to the absence of the fleshy processes of the lower lip of the stigma. Otherwise, Platanthera is the same as Habenaria. The species may be very naturally arranged as under.

§ 1. *Labellum indivisum.*
- *a.* Labellum integrum, nunc basi bidentatum, aut repandum.
- *b.* Labellum incisum; nunc tantum crenulatum.

§ 2. *Labellum tripartitum.* Labiena.
- *a.* Labelli laciniæ indivisæ.
- *b.* Labelli laciniæ incisæ æquales.
- *c.* Labelli laciniæ incisæ; lateralibus multò majoribus.

§ 1. Labellum indivisum.

a. *Labellum integrum; nunc basi bidentatum; aut repandum.* Series specierum ab unifoliis ad foliosas.

1. Platanthera obtusata.

P. folio solitario obovato, caule sæpiùs aphyllo, spicâ laxiusculâ, sepalo supremo latissimo, petalis subtriangularibus acuminatis obtusis, labello acuminato apice recurvo calcaris conici arcuati acuti longitudine.

Orchis obtusata. *Pursh.! Fl. Am. Sept.* 2, 588.
Habenaria obtusata. *Richardson in Franklin. Journ. p.* 761. *Graham in Edinb. Phil. Journ. App.—Jun.* 1830.

Hab. in *America* et *Asia septentrionali:* in sylvis Novæ Scotiæ frequens, *Menzies;* California, *Douglas;* America arctica, *Richardson;* Labradoria, *Henn;* Sibiria, *Prescott;* ora Americæ occ. *Demidoff.* (*hab. s. sp.*)

This species varies with its spur longer or shorter, and its petals more

or less triangular and acute. Its flowers are also occasionally very crowded.

2. Platanthera tipuloides.

P. folio radicali solitario obtuso basi angustato caulino oblongo acutato superioribus minoribus, spicâ brevi laxâ, bracteis foliaceis linearibus acuminatis floribus duplò longioribus, petalis labelloque carnosis ovatis obtusis subæqualibus, calcare arcuato filiformi ovario longiore.

Orchis tipuloides. *Linn.! Suppl.* 401. *Willd. Sp. Pl.* 4, 41.

Hab. in *Kamtchatka, Fischer.* (*hab. s. sp. comm. cel. Prescott.*)

Linnæus petala hujus speciei labello annexit, et monstrum, nulli cognitum, effecit. Extat in ejus herbario, et procul dubio est planta a cel. Fischero sub nomine *O. gracilis* divulgata.

3. Platanthera elegans.

P. foliis binis oblongo-lanceolatis, caule squamis parvis ramentaceis, spicâ longâ densâ cylindraceâ, bracteis lineari-subulatis florum longitudine, sepalis campanulatis acuminatis obtusis, petalis labelloque carnosis ovato linearibus obtusis subæqualibus, calcare filiformi arcuato ovario longiore.

Hab. in *America boreali occidentali, Douglas.* (*hab. s. sp. comm. Soc. Hort.*)

Tubercula indivisa. Caulis sesquipedalis. Flores parvi. Glandulæ polliniorum maximæ.

4. Platanthera bifolia. *Reichb. Fl. Excurs. Germ.* 120. *Pl. Criticæ, IX.* 1143. *Mayrhofer, Orch. Austr. p.* 30.

P. foliis radicalibus binis obovatis caulinis paucissimis depauperatis, spicâ laxâ multiflorâ, sepalis lateralibus reflexis, labello lineari obtuso petalis duplò longiore calcare filiformi apice incrassato duplò breviore, antheræ lobis approximatis parallelis.

Orchis bifolia. *Linn.! Sp. Pl. Bieb. Fl. Taur. Cauc.* 2, 362.
Orchis alba. *Lamarck.*
Habenaria bifolia. *R. Br. in Hort. Kew.* 5, 193.
Satyrium bifolium. *Wahl. Fl. Suec.* 558.
Platanthera solstitialis. *a Bnghn.* ex Rchb.

β. *anthera emarginata; labello admodum breviore.*

Pl. brachyglossa. *Rchb. Pl. Critic. IX.* 1144. *Fl. Excurs. Germ.* $\frac{140}{17}$.

Hab. per omnem *Europam;* a Suecia, *Wahlenberg,* et Anglia, ad Florentiam, *Strangways.* (*v. v. et s. sp.*)

Flores odorati; nunc inodori. Sequente multò gracilior, et minùs virescens in floribus.

5. Platanthera chlorantha. *Rchb. Pl. Criticæ, IX.* 1145. *Fl. Excurs. Germ.* 120 & $\frac{140}{17}$.

P. foliis radicalibus binis oblongis acutiusculis caulinis squamæformibus, spicâ densâ multiflorâ, sepalis lateralibus reflexis, labello angusto ovato-lanceolato obtuso petalis duplò longiore calcare filiformi apice incrassato duplò breviore, antheræ lobis divaricatis distantibus.

Orchis bifolia. *Fl. Dan.* 235. *Eng. Bot. t.* 22.
Orchis virescens. *Gaud. Fl. Helv.* 5. 497.
P. bifolia. *Richard. Orch. Eur. Annot.* 35. *Lodd. Bot. Cab.* 1653.
P. bifolia, β. *Mayrhof. p.* 30.

Hab. in *Europa;* a Scotia, *Bentham,* ad Viennam, *Mayrhofer.* (*hab. s. sp. et v. v. sp.*)

Communis in Anglia. In partibus Europæ australioribus deest, teste cel. *Strangways,* qui nullibi in Italia invenit, ubi *Pl. bifolia* ubique divulgatur.

6. Platanthera Hookeri.

P. foliis radicalibus binis orbiculatis planis, caule nudo, spicâ strictâ multiflorâ, sepalis lateralibus reflexis, labello lineari-lanceolato acuminato glabro sepalis parùm longiore, calcare filiformi arcuato ovarii longitudine, antheræ lobis basi adnatis.

Habenaria Hookeri. *Torrey's MSS.* *Gray in Ann. Lyc. N. York,* 1834, *v.* 3.
Habenaria orbiculata. *Hooker, Exot. Fl. t.* 145. *Loddiges, Bot. Cab. t.* 1523?

Hab. in *America septentrionali:* a Canada, *Goldie,* ad Virginiam, *Hooker.* (*hab. s. sp.*)

Known at first sight from the following by the flowers being sessile instead of stalked, by its much shorter lip and spur, and by the form of its anther; besides which, the whole plant of P. Hookeri is smaller.

7. Platanthera orbiculata.

P. foliis radicalibus binis orbiculatis planis, caule subaphyllo, racemo laxo multifloro, sepalis lateralibus reflexis, labello lineari spathulato basi pubescente sepalis ferè triplò longiore, calcare arcuato compresso ovario duplò longiore, antheræ lobis basi elongatis liberis.

Orchis orbiculata. *Pursh. Fl. Am. Sept.* 2, 588.
Habenaria orbiculata. *Torrey, Compend. p.* 318.
Habenaria macrophylla. *Hooker! in Edinb. Phil. Jour. vol. vi.* 331. *Beck Bot. of N. and M. St. N. Amer.* 349.

Hab. in *Canada;* in sylvis opacatis prope Montreal, *Goldie.* (*hab. s. sp.*)

I am indebted to Dr. Torrey for the adjustment of the synonyms of this and the preceding species.

8. Platanthera Menziesii.

P. foliis radicalibus binis subrotundo-oblongis erectis, caule subbisquamato, racemo laxo paucifloro, sepalis obtusissimis, petalis truncatis labello lineari obtuso brevioribus, calcare pendulo obtuso apice inflexo ovario subæquali.

Hab. in ora occidentali *Americæ septentrionalis.* (*hab. s. sp. comm. cel. Menzies.*)

9. Platanthera Schischmareffiana.

P. foliis radicalibus binis obovato-lanceolatis canaliculatis, spicâ subsecundâ multiflorâ, bracteis oblongis obtusis ovarii longitudine, sepalis oblongis obtusis, petalis labelloque carnosis ovatis obtusis, calcare arcuato gracili labelli longitudine.

Habenaria Schischmareffiana. *Chamisso in Linnæa,* 3. 29.
? Spiranthes unalaschcensis. *Spreng. syst.* 3. 708.

Hab. in *Unalaschka, Chamisso.* (*hab. s. sp. comm. cel. Fischer.*)

Planta facie *Herminii Monorchis.*

10. Platanthera Königii.

P. caule folioso, foliis inferioribus oblongo-lanceolatis obtusis emarginatisque superioribus linearibus spicæ ferè æqualibus, spicâ densâ cylindra-

ceâ, bracteis herbaceis floribus æqualibus, labello subrhombeo-lineari obtuso calcare inflexo obtuso longiore.

α. petalis ovatis acutis.

Orchis Königii. *Retz. Fl. Scand.* 1087. *Willd. Sp. Pl.* 4, 39. *Fl. Dan. t.* 333.

β. petalis cordatis acuminatis.

O. dolichorhiza. *Fisch.! MSS.*

Hab. in circulo *arctico;* α. Islandia, *Mærck, Giseke;* β. Unalaschka, *Langsdorff.* (*hab. s. sp. comm. cell. Lehmann et Fischer.*)

11. Platanthera herbiola.

P. caule folioso, foliis inferioribus oblongis acutis superioribus lanceolatis acuminatis, spicâ densâ cylindraceâ, bracteis herbaceis acuminatis floribus longioribus, labello lineari-lanceolato basi bidentato medio unituberculato calcare clavato duplò breviore.

Habenaria herbiola. *R. Br. in Hort. Kew.* 5, 193. *Beck. Bot. N. and M. Amer.* 347.
Orchis herbiola. *Pursh. Fl. Am. Septr.* 2, 743.
Orchis fuscescens. *Id.!* 2, 587. *Lodd. Bot. Cab.* *Elliott, Bot. Carol.* 2, 488.
Orchis bidentata. *Elliott, l. c.*
? Orchis scutellata. *Nuttall in Amer. Phil. Trans. N. S.* 5, *p.* 161.

Hab. in *America septentrionali:* Massachussetts, *Torrey;* paludibus et pratis montanis, *Beck, Pursh;* Georgia et Carolina, *Elliott.* (*hab. s. sp. comm. cel. Torrey.*)

O. scutellata of Nuttall seems to differ in nothing except its lip being emarginate.

12. Platanthera hyperborea.

P. caule folioso, foliis lanceolatis strictissimis acutis, spicâ laxiusculâ subsecundâ, bracteis lineari-lanceolatis acutis flore longioribus, sepalis deflexis, petalis labelloque linearibus obtusis subæqualibus calcaris obtusi penduli longitudine, radicibus longissimis carnosis.

Orchis hyperborea. *Linn. Mant.* 121. *Willd. Sp. Pl.* 4, 37. *Retz. Obs. Bot.* 4, 30, *t.* 3.
Habenaria hyperborea. *R. Br. in Hort. Kew.* 5, 193. *Richardson in Franklin.*

Hab. in *circulo arctico:* Grönlandia, *Hb. Lehmann;* Islandia, *König.;* America arctica, *Richardson.* (*hab. s. sp. comm. cel. Hooker.*)

13. Platanthera convallariæfolia.

P. caule folioso, foliis oblongo-lanceolatis sensim decrescentibus, spicâ laxiusculâ elongatâ, bracteis lineari-lanceolatis herbaceis floribus longioribus, petalis falcatis truncatis, labello lineari obtuso calcaris longitudine.

Orchis convallariæfolia. *Fisch. MSS.*

Hab. in *Kamtchatka, Fischer.* (*hab. s. sp. comm. cel. Prescott.*)

14. Platanthera dilatata. *Lindl. Beck. Bot. N. and M. Amer.* 347.

P. caule folioso, foliis lanceolatis gramineisve, spicâ elongatâ cylindraceâ densâ laxâque, bracteis lineari-lanceolatis acuminatis floribus æqualibus longioribusque, sepalis ovatis obtusis, petalis minoribus conformibus membranaceis, labello rhomboideo lineari-lanceolato obtuso calcaris obtusi longitudine.

Orchis dilatata. *Pursh. Fl. Am. Sept.* 2, 588.
Habenaria dilatata. *Hooker, Exot. Fl. t.* 95.
Orchis agastachys. *Fischer, MSS.*
Habenaria borealis. *Chamisso in Linn.* 3. 28.

Hab. in *America septentrionali*. Canada, *Goldie, Torrey*; Labradoria, *Henn*; ora occidentali, *Douglas*; Unalaschka, *Langsdorff*. (*hab. s. sp.*)

Variat floribus albis suaveolentibus, et virentibus ferè inodoris. *Chamisso.*

In my specimens of *P. dilatata*, from Dr. Torrey, the flowers are rather smaller, and the spike much more lax; but I see no further difference. In *Habenaria borealis* the lip is scarcely so rhomboidal, and rather longer than the very obtuse spur.

15. Platanthera huronensis.

P. caule folioso, foliis inferioribus oblongis superioribus gramineis, spicâ laxâ tenui, bracteis acuminatis florum longitudine v. longioribus, labello ovato-lanceolato calcaris incurvi compressi longitudine.

Orchis huronensis. *Nuttall, Gen. Amer.* 2, 189.
Habenaria huronensis. *Spreng. Syst. Beck. Bot. N. and M. Amer.* 348.

Hab. in *America septentrionali*; locis humidis in insulis lacuum Huron et Michigan, *Nuttall*; prope Albany, *Torrey*. (*exam. s. sp. in hb. Hooker.*)

P. dilatatæ et *septentrionali* proxima, sed flores ferè minores quam in *P. herbiola*. Character essentialis in foliis inferioribus latis florumque magnitudine constat. Caulis in unico exemplare quod examinavi ferè 2-pedalis fuit.

16. Platanthera leucostachys.

P. caule folioso, foliis oblongo-lanceolatis obtusis, spicâ longissimâ densâ, bracteis florum longitudine, sepalis ovatis obtusis, petalis membranaceis linearibus emarginatis, labello rhomboideo lineari-lanceolato calcare filiformi arcuato duplò breviore, antheræ lobis parallelis rostello maximo plicato.

Hab. in ora *occidentali Americæ septentrionalis, Douglas*. (*hab. s. sp. comm. Soc. Hort.*)

Rostellum ferè Gymnadeniæ sed magnum et prominens. Flores verosimiliter albi.

17. Platanthera gracilis.

P. caule folioso, foliis linearibus acuminatis obtusis debilibus patentibus, spicâ laxâ elongatâ floribus inferioribus remotis, bracteis angustis acuminatis floribus longioribus, petalis obliquis acuminatis obtusis, labello lineari obtuso calcaris apice inflati obtusissimi longitudine.

Hab. in ora *occidentali Americæ septentrionalis, Menzies*; Observatory inlet *Herb. Hooker*. (*hab. s. sp. comm. cel. Menzies.*)

Caules debiles, 1½-2-pedales. Folia 3-poll. longa, parùm acuminata, nullo modo acuta.

18. Platanthera stricta.

P. caule folioso stricto, foliis ovato-lanceolatis internodiis duplò longioribus, spicâ laxâ elongatâ, bracteis lineari-lanceolatis floribus longioribus, sepalo dorsali latiore, petalis ovatis acuminatis obtusis, labello lineari obtuso calcare apice inflato obtusissimo duplò longiore.

Hab. in *America boreali-occidentali, Douglas*. (*hab. s. sp. comm. Hort. Soc. Lond.*)

Priore differt habitu stricto, foliis brevioribus (2½-poll.) latioribus et magis acuminatis, demum calcare duplò breviore.

19. Platanthera graminea.

P. caule folioso, foliis strictis inferioribus lineari-lanceolatis obtusiusculis superioribus acuminatis, spicâ laxiusculâ, bracteis acuminatis floribus brevioribus, petalis obliquis apice truncatis tridentatis labello rhombeo lanceolato undulato venoso æqualibus calcare clavato arcuato duplò brevioribus.

Hab. in ora *occidentali Americæ septentrionalis, Menzies.* (*hab. s. sp. comm. cel. Menzies.*)

Glandulæ maximæ polliniis æquales.

20. Platanthera arcuata.

P. caule folioso, foliis oblongis acutis, racemo laxo multifloro, bracteis foliaceis acuminatis floribus longioribus, sepalis secundis, labello lineari sepalis longiore, petalis linearibus liberis, calcare falcato ovario duplò longiore.

Hab. in *India septentrionali:* Mussooree, *Royle.* (*exam. s. sp. in hb. Royle.*)

Caudicula polliniorum cornea crassa; glandulâ maximâ membranaceâ.

21. Platanthera latilabris.

P. caule folioso, foliis ovato-oblongis acutissimis, spicâ longâ laxiusculâ, bracteis ovatis floribus brevioribus, sepalis ovatis acutis ciliatis, petalis conformibus glabris carnosis labello carnoso lanceolato brevioribus, calcare clavato labello duplò longiore, ovario rostrato.

P. acuminata. *Wall. cat. no.* 7040 *pars.*

Hab in *India septentrionali, Wallich.* (*hab. s. sp. e. mus. Angl. Ind.*)

22. Platanthera acuminata. *Lindl. in Wall. Cat. no.* 7040.

P. caule folioso, foliis ovato-oblongis acutissimis, spicâ longâ laxiusculâ, bracteis ovatis floribus brevioribus, sepalis oblongis obtusis ciliatis, petalis ovatis acuminatis carnosis glabris labello lineari carnoso æquilongis et duplò latioribus, calcare arcuato, labello multo longiore, ovario rostrato.

α. foliis acuminatis, petalis labelloque luteis, calcare albo.

β. foliis apice rotundatis, acutis, floribus omnino herbaceis, calcare viridi.

Hab. in *India septentrionali:* Napalia et Kamaon, *Wallich,* occidentem versus *Royle,* (*hab. s. sp. e. Museo Angl. Ind. et v. ic. pict. comm. cel. Royle.*)

This varies considerably in the length of the spur.

23. Platanthera clavigera.

P. caule folioso, foliis ovato-oblongis acuminatis, spicâ elongatâ laxiusculâ, bracteis acuminatis florum longitudine, sepalis petalisq; ovatis obtusis glabris, labello lineari acuto basi bidentato tuberculo uno in medio, calcare clavato obtusissimo labello longiore.

Hab. in *India Septentrionali*; Simla, *Comitissa Dalhousie.* (*exam. s. sp. in herb. Hook.*)

This appears to vary a good deal in the size of the flowers. They are smaller than in *P. dilatata.*

24. Platanthera ? japonica.

P. "labello lineari subulato integerrimo, petalis obtusis, cornu germine triplo longiore, caule folioso, foliis lanceolatis patentibus." W.

Orchis japonica. *Thunb. fl. Jap.* 26. *ic. pl. Jap. t.* 3. *Willd. sp. pl.* 4. 11.

Hab. in *Japonia* Thunberg.

25. Platanthera angustata.

P. "labelli limbo lineari, calcare attenuato."

Mecosa angustata. *Blume Bijdr. p.* 404, *t.* 1.

Hab. in *Java,* in montanis Salak et Burangrang, Blume.

26. Platanthera Blumii.

P. "labelli limbo ovato-oblongo, calcare clavato."

Mecosa dilatata. *Blume l. c.*

Hab. in *Java,* in altis montis Gede et Pangurangu, Blume.

27. Platanthera aphylla.

P. "racemo secundo, floribus campanulatis albis, nectario filiformi, foliis nullis." *Forsk.*

Orchis aphylla. *Forskahl.*
Habenaria aphylla. *Brown Prodr.* 1. 312. *Spreng. syst.* 6. 690.

Hab. in *Arabia* ad *Uahfât* et *Kurma,* Forskahl. (*v. s. sp. in herb. Lehm.*)

Exemplar quod vidi in *Hb. Lehm.* ferè defloratum fuit. Aphyllum inveni, vix spithamæum, caule squamis plurimis oblongis cuspidatis vestito. Racemus secundus, 4 p. longus. Flores *Goodyeræ elatæ* formâ et magnitudine. Sepala et petala defuêre. Calcar filiforme, incurvum, apice inflexum. Antheræ lobi basi inflexi dilatati, incurvi, aucti, more omnino insolito. Rostellum planum.

28. Platanthera obcordata. *Lindl. in Wall. Cat. no.* 7050.

P. caule humili densè folioso, foliis ovato-oblongis acutis, spicâ densâ foliosâ, petalis sepalisque galeatis lateralibus patentibus labello, obcordato apiculato calcare longiore.

Orchis obcordata. *Don. prodr. nep.* 23.

Hab. in *Napalia et Kamaon, Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Caulis uncialis ad palmarem. Flores purpurei.

29. Platanthera decipiens.

P. caule folioso, foliis oblongis vix vaginantibus inferioribus obtusis supremis acutis, spicâ multiflorâ laxiusculâ, bracteis foliaceis inferioribus flore duplò longioribus, sepalis petalisque angustè ovatis acutiusculis, labello cuneato tridentato calcare curvo conico duplo longiore.

α. labelli dentibus lateralibus denticulatis majoribus.

β. labelli dentibus lateralibus integerrimis minoribus.

Hab. *α* in *Sibiria, Prescott* ; *β* in *Kamtchatka ? Id.* (*hab. s. sp. comm. cel. Prescott.*)

Planta facie *Peristyli bracteati,* spithamea ad pedalem.

b. *Labellum incisum, nunc tantum crenulatum.*

30. Platanthera cristata.

P. caule folioso, folio inferiore longo lanceolato cæteris minoribus acuminatis, spicâ oblongâ densâ multiflorâ, bracteis acuminatissimis florum longitudine, sepalo supremo ovato lateralibus deflexis rotundatis, petalis rotundatis crenatis, labello ovato margine lacero calcari clavato obliquè truncato subæquali.

Orchis cristata. *Mich. Amer. bor.* 2. 156. *Willd. sp. pl.* 4. 9. *Pursh.* 2. 585. *Elliott, Sketch*, 2. 483.
Habenaria cristata. *R. Br. in Hort. Kew.* 5. 194. *Lodd. Bot. Cab. t.* 1651. *Beck. Bot. M. and N. Amer.* 348.

Hab. in locis udis ad margines paludum, cum P. blephariglotti et ciliari intermixta, in *America septentrionali:* Carolina, *Elliott;* Pennsylvania, *Pursh;* Alabama, *Drummond.* (*hab. s. sp.*)

Flores lutei. Gymnadeniæ luteæ simillima.

31. Platanthera holopetala.

P. caule folioso, foliis ovato-lanceolatis acutis, spicâ laxâ multiflorâ, bracteis lineari-lanceolatis ovarii longitudine, sepalis suborbiculatis obtusis supremo galeato, petalis linearibus acuminatis obtusis integerrimis, labello lanceolato margine lacero calcare filiformi duplò breviore, ovario rostrato.

Habenaria blephariglottis. *Hooker! Exot. Fl. t.* 87, nec aliorum.

Hab. in *Canada, Goldie.* (*hab. s. sp. comm. cel. Hooker.*)

Flores albidi.

I conceive that this plant is unknown to American botanists; for they all agree in the difficulty of distinguishing *P. blephariglottis* from *ciliaris;* which would not be the case if they knew this species, in which the petals are entire.

32. Platanthera blephariglottis.

P. caule folioso, foliis inferioribus lanceolatis canaliculatis sensim decrescentibus, spicâ oblongâ multiflorâ densâ, bracteis foliaceis linearibus acuminatis floribus brevioribus, sepalis rotundato-oblongis lateralibus reflexis, petalis spathulatis dentatis, labello oblongo plano fimbriato medio papilloso calcare recto pendulo triplò breviore, ovario longissimè rostrato.

Orchis blephariglottis. *Willd. Sp. Pl.* 4, 9.
Habenaria blephariglottis. *Beck. Bot. N. and M. Amer.* 348?

Hab. in *America septentrionali:* Pennsylvania, Muhlenberg; Canada, *Schweinitz.* (*hab. s. sp. comm. cel. Bentham.*)

Flores albidi.

This plant is well defined by Willdenow; but it appears to be little known to the writers on North American botany, who apparently mistake for it what I conceive is a white variety of *Pl. ciliaris.* In many respects it is very like that species; but its flowers are smaller, the raceme is much more compact, the lip is flat, ovate-oblong, with short and nearly simple ciliæ, and the anther is at least as tall as it is broad, while that of *P. ciliaris* is always, as far as I have seen, very much depressed, so as to be greatly broader than tall.

33. Platanthera ciliaris.

P. caule folioso, foliis inferioribus ovato-lanceolatis supremis minimis, spicâ oblongâ densâ multiflorâ, bracteis acuminatis ovario brevioribus, sepalis reflexis ovato-subrotundis obtusis, petalis linearibus reflexis apice incisis, labello oblongo margine capillaceo multifido calcare arcuato duplò breviore, ovario colorato longissimè rostrato.

α. floribus aureis.

Orchis ciliaris. *Linn. Sp. Mich. Amer.* 2, 156. *Andrews, Bot. Rep.* 1, *t.* 42. *Willd. Sp. Pl.* 4, 8. *Pursh.* 2, 585. *Elliott, Sketch.* 2, 483. *Bot. Mag. t.* 1668.
Habenaria ciliaris. *R. Brown in Hort. Kew.* 5, 194.

β. floribus niveis.

Orchis blephariglottis. *Elliott, Sketch.* 2, 483, et verosimiliter pl. auct. Amer.

Hab. in *America septentrionali*; a Canada ad Carolinam. (*v. v. c. et hab. s. sp.*)

Variat statura, et magnitudine florum; maximi sunt in exemplaribus varietatis aureæ a Drummondio in Alabama lectis, minimi in Canadensibus var. niveæ pertinentibus.

§ 2. Labellum tripartitum. Labiena.

a. *Labelli laciniæ indivisæ.*

34. Platanthera rotundifolia.

P. folio solitario radicali subrotundo-ovato plano, caule nudo, spicâ pauciflorâ laxiusculâ, bracteis obtusis ovario brevioribus, sepalis petalisque obtusis, labello trilobo lobis lateralibus subfalcatis intermedio obcordato apiculato, calcare acuto labelli longitudine.

Orchis rotundifolia. *Pursh. Fl. Am. sept.* 2.
Habenaria rotundifolia. *Richardson in Franklin's Journey*, p. 761.

Hab. in *America septentrionali*; Rocky mountains, *Drummond*; Hudson's Bay, *Pursh.*; prope Anticosti, *Goldie.* (*hab. s. sp. comm. cel. Hooker.*)

35. Platanthera? graminea.

P. caule folioso, foliis gramineis, spicâ brevi pauciflorâ, bracteis ovatis ovario brevioribus, labello trilobo lobo intermedio elongato calcare longiore.

Habenaria graminea. *Spreng. Syst.* 3, 690.
Satyrium gramineum. *Thouars, Orch. Afr. t.* 6.

Hab. in *Madagascaria*, Thouars.

Flores purpurei.

36. Platanthera cubitalis.

P. caule folioso, foliis lineari-lanceolatis acutissimis, spicâ laxâ foliosâ, bracteis cucullatis cuspidatis acuminatissimis floribus longioribus, sepalis ovatis obtusis, petalis subulatis, labello tripartito laciniis lateralibus retrorsum falcatis calcare clavato pendulo triplò breviore.

Orchis cubitalis. *Linn. Sp. Pl.* 1333. *Fl. Zeyl.* 320. *Willd. Sp. Pl.* 4, 17.
Habenaria cubitalis. *R. Br. Prodr.*

Hab. in *Zeylona*, Hermann; in pratis apricis ad latera collium altiorum prope Maturata, florens Novembre, *Macrae.* (*hab. s. sp. et ic. pict.*)

Sepala viridia, labello purpureo.

37. Platanthera longibracteata. *Lindl. in Wall. Cat. no.* 7048.

P. caule folioso, foliis oblongo-lanceolatis, bracteis longissimis foliaceis acuminatissimis, labelli tripartiti laciniis linearibus lateralibus abbreviatis, calcare obtuso abbreviato.

Hab. in regno *Burmano,* ad ripas fluminis Irawaddy ad Sundya, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Forte Habenaria; sed processus nullos detegi in alabastro solitario quem examinare potui. An Peristylus?

38. Platanthera brachyphylla.

P. foliis duobus radicalibus carnosis reniformi-orbiculatis, scapo squamis acuminatissimis vestito, bracteis ovatis cucullatis acuminatissimis florum longitudine, sepalis ovato-subrotundis supremo obtuso lateralibus acutis pendulis, petalis minoribus ovatis, labello altè tridentato sepalis breviore calcare clavato triplò breviore, ovario rostrato.

Hab. in *peninsula Indiæ orientalis, Wight.* (*hab. s. sp. comm. cel. Wight.*)

39. Platanthera flava.

P. "labello trifido integerrimo; laciniâ mediâ majore, cornu filiformi longitudine germinis, spicâ elongatâ congestâ, bracteis flore longioribus." *Pursh. sub Orchide.*

Orchis flava. *Linn. Sp. Pl.* 1336. *Willd. Sp. Pl.* 4, 33, nec aliorum.
Habenaria flava. *R. Br. Prodr.*

Hab. in *Virginia,* Clayton.

Pursh examined this in the Herbarium of Gronovius, and he seems to be the only modern botanist who has seen it. I have adopted his character, not having consulted the specimen myself.

b. *Labelli laciniæ incisæ æquales.*

40. Platanthera incisa.

P. caule folioso, foliis obovato-oblongis sursùm decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis floribus longioribus, sepalis oblongis lateralibus deflexis, petalis erectis oblongis denticulatis, labelli unguiculati subrotundi laciniis cuneatis inciso-denticulatis intermediâ majore calcare duplò breviore.

Orchis incisa. *Willd. Sp. Pl.* 4, 40. *Pursh,* 2, 589.
Habenaria incisa. *Spreng. Syst. veg.* 3. *Beck. Bot. N. and M. Amer.* 349.

Hab. in *America septentrionali:* in pratis a Noveboraco ad Virginiam, *Pursh.* (*hab. s. sp. comm. cel. Beck,* &c.)

Flores purpurei.

41. Platanthera fimbriata.

P. caule folioso, foliis oblongis sursùm decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis supremis floribus subæqualibus, sepalis oblongis obtusis lateralibus deflexis, petalis erectis oblongis obtusis incisis, labelli unguiculati subrotundi laciniis cuneatis inciso-dentatis intermediâ majore calcare duplò breviore.

Orchis fimbriata. *Hort. Kew. ed.* 1, 3, 297. *Willd. Sp. Pl.* 4, 39. *Pursh,* 2, 588.
Habenaria fimbriata. *R. Br. in Hort. Kew.* 5, 193. *Beck. Bot. N. and M. Amer.* 349.

Hab. in *America septentrionali:* a Canada ad Pennsylvaniam, in pratis et paludibus montanis, *Pursh.* (*hab. s. sp.*)

Flores purpurei.

42. Platanthera crispa.

P. caule folioso, foliis angustè lanceolatis acuminatis sursùm decrescentibus, racemo cylindraceo denso multifloro, bracteis linearibus acuminatis floribus brevioribus, sepalis subrotundis patentissimis, petalis conformibus inciso-crispis, labelli unguiculati subrotundi laciniis cuneatis inciso-crispis intermediâ majore, calcare triplò breviore, angulis ovarii crispis.

Hab. in *America septentrionali, Frazer.* (*hab. s. sp.*)

Flores haud majores quam in *P. cristata;* facies quasi hybrida inter illam et *P. incisam.* Distinctissima.

43. Platanthera fissa.

P. caule folioso, foliis ovato-lanceolatis acuminatis, spicâ oblongâ multiflorâ, bracteis acuminatis ovario brevioribus, sepalis subrotundo-ovatis obtusis, petalis obovatis denticulatis, labello 3-partito laciniis truncatis apice denticulatis lateralibus brevioribus intermedio bilobo, calcare filiformi duplò longiore.

Orchis fissa. *Pluk. Amalth. t.* 434, *f.* 6, *bona. Willd. Sp. Pl.* 4, 71. *Pursh*, 2, 589.
Habenaria fissa. *R. Br. Prodr. Beck. Bot. N. and M. Amer.* 349.
Orchis incisa. *Nutt. Gen.* 2, 189, *nec aliorum.*

Hab. in *America septentrionali;* in pratis montanis a Pennsylvania ad Virginiam, *Pursh.* (*hab. s. sp. a Frazero.*)

Flores magni purpurei. Labellum sessile.

44. Platanthera grandiflora.

P. characteribus omnibus P. fimbriatæ sed floribus duplò majoribus, labelli laciniis lateralibus altiùs incisis intermediâ latiore, bracteis inferioribus haud floribus longioribus.

Orchis grandiflora. *Bigelow.*
Habenaria grandiflora. *Torrey in Beck. Bot. N. and M. Amer.* 349.

Hab. in pratis *Americæ septentrionalis:* Massachussets, *Bigelow, Beck.* (*hab. s. sp. comm. cel. Boott.*)

This is probably a mere variety of *P. fimbriata.*

45. Platanthera leucophæa.

P. foliis angustis ovato-lanceolatis sensim angustatis, spicâ laxâ multiflorâ, bracteis ovato lanceolatis acuminatis floribus æqualibus, petalis obovatis inciso-crenatis, labello 3-partito unguiculato: laciniis multifidis acuminatis: ungue bilamellato, calcare filiformi longissimo apice clavato compresso acuto.

Orchis leucophæa. *Nuttall in Am. Phil. Trans. vol.* 5, *n. s. p.* 161.

Hab. in *America septentrionali,* agro *Arkansarum,* pratis humidis prope Kiamesha, Junio florens, *Nuttall.* (*exam. s. sp. in herb. Torrey.*)

Inter *Pl. fissam* et *psychodem,* utramque magnitudine florum duplò superans candidorum. Folia præterea angustiora, spicaque multo laxior speciem diversam satis indicant.

46. Platanthera psychodes.

P. caule folioso, foliis inferioribus oblongis obtusis supremis angustissimis

acuminatis, racemo laxo multifloro, bracteis foliaceis floribus longioribus, sepalis retusis lateralibus deflexis, petalis emarginatis, labello unguiculato tripartito laciniis cuneatis capillaceo-multifidis subæqualibus, calcare ovario duplò breviore.

α. laciniis omnibus labelli multifidis.

Orchis psychodes. *Linn. Sp. Pl.* 1336. *Willd. Sp. Pl.* 4, 39. *Pursh*, 2, 3.
Orchis lacera. *Mich. Fl. Am. Bor.* 2, 156. *Pursh*, 2, 586. *Elliott, Sketch.* 2, 484. *Sweet Fl. Gard. ser.* 2, *t.* 73.
Habenaria psychodes. *Spreng. Syst.* 3. *Beck.! Bot. N. and M. Amer.* 349.
Habenaria lacera. *R. Br. Prodr.* .

β. laciniâ intermediâ labelli indivisâ.

Hab. in *America septentrionali*; α. a Canada ad Carolinam; β. ———. (*hab. α. s. sp. comm. cel. Boott et Beck*; *β. s. sp. Frazero lectum.*)

Flores albi virescentes.

c. *Labelli laciniæ incisæ; lateralibus multò majoribus.*

47. Platanthera candida. *Lindl. in Wall. Cat. no.* 7035.

P. caule folioso subbifloro, foliis ovato-oblongis acutis supremis cucullatis, sepalis ovatis acutis, petalis linearibus nanis, labello cuneato-rhomboideo tripartito: laciniis lateralibus latis integris intermediâ lineari, calcare clavato labello duplò longiore.

Habenaria triflora. *Don. Prodr.* 25.

Hab. in *Napalia* et *Kamaon*, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

48. Platanthera uniflora.

P. "labello maximo suborbiculato, perianthii foliolis ovalibus obtusis, calcaribus ovario ferè duplò longioribus." *Don. Prodr.* 25.

Habenaria uniflora. *Don. Prodr.* 25.

Hab. in *Napalia*, Don.

49. Platanthera Susannæ.

P. caule folioso subtrifloro, foliis ovato-oblongis acutis supremis cucullatis acuminatis, sepalis ovatis obtusis lateralibus obliquis dorsali rhomboideo, petalis linearibus acutis, labelli tripartiti laciniis lateralibus truncatis multifido-laceris intermediâ lineari, calcare duplò longiore.

Flos Susannæ. *Rumph. Amb.* 5, *t.* 99, *f.* 2.
Orchis Susannæ. *Linn. Sp. Pl.* 1330. *Willd. Sp. Pl.* 4, 8. *Lour. Fl. Cochinch.* 2, 638.
Habenaria Susannæ. *R. Br. Prodr.* *Blume, Bijdr.* 1, 402.
Platanthera gigantea. *Lindl. in Wall. Cat. no.* 7052.
Orchis gigantea. *Smith, Exot. Bot. t.* 100.
Habenaria gigantea. *Don. Prodr.* 24. *Hooker, Bot. Mag.* 3374.

Hab. in *India orientali*: Amboyna, Rumph.; Java, prope Kuripan locis paludosis, Blume; prope Canton, Loureiro; Napalia, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

I can discover nothing like a distinction between the two species here combined. It is evident that Blume's plant is the same as the species in Nepal and China.

50. Platanthera robusta. *Lindl. in Wall. Cat. no.* 7036.

P. caule folioso 4-5-floro, foliis oblongis acutis supremis lanceolatis cucullatis, sepalis ovatis acutis, petalis lineari-ovatis nanis, labelli tripartiti

laciniis lateralibus cuneatis truncatis incisis intermediâ lineari longiore, calcare longissimo.

Hab. in regno *Burmano*; Prome, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

51. Platanthera dentata.

P. "labello tripartito, laciniis lateralibus oblongis dentatis, intermediâ lineari obtusâ integrâ, cornu germine duplò longiore."

Orchis dentata. *Swartz in Act. Holm.* 1800, *p.* 207. *Willd. Sp. Pl.* 4, 42.

Hab. in *China*, Swartz.

52. Platanthera radiata.

P. foliis ensiformibus suberectis, caule subbifloro, bracteis acuminatis ovario duplò brevioribus, labello tripartito plano: laciniis lateralibus dilatatis ciliato-dentatis intermediâ lanceolatâ, calcare filiformi acuto ovario æquali.

Orchis Susannæ. *Thunb. Jap.* 25.
O. radiata. *Thunb. in Act. Linn. Lond.* 2, 326. *Ic. Pl. Jap. t.* 2. *Willd. Sp. Pl.* 4, 8.

Hab. in *Japonia*, Thunb.

CLXXVIII. HEMIPILIA.

Perianthium Orchidis. Calcar elongatum. Columna cum basi labelli subconnata. Anthera subhorizontalis; basibus divergentibus adnatis. Glandulæ apicibus canalium (cucullis dimidiatis) inflexis tectæ. Rostellum fornicatum, liberum, ultra lobos antheræ projiciens. Processus carnosi o.———Folium solitarium. Racemus secundus, multiflorus. Radices tuberculosæ.

This genus differs from Platanthera in having the glands of the pollen masses concealed by the inflexed points of the stigmatic canals, which thus form an imperfect pouch, and in the enlarged projecting upper lip of the stigma or rostellum. Gymnadenia Chusua approaches it in structure, but the cells of the anther of that species are parallel and contiguous.

1. Hemipilia cordifolia.

Platanthera cordifolia. *Lindl. in Wall. Cat. no.* 7049.

Hab. in *India septentrionali*; Gossain Than, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis semipedalis, folio unico radicali, cordato, oblongo, acuto, amplexicauli; cæterùm ferè nudus. Racemus secundus. Bracteæ ovatæ, acutæ, ovario duplò breviores. Flores magnitudine *Orchidis maculatæ*. Sepala ovata, patentia, obtusiuscula. Petala paulò minora, c. galea non agglutinata. Labellum cum basi columnæ connatum, oblongum, trilobum; lobis subæqualibus rotundatis intermedio productiore. Calcar cylindraceum, obtusum, horizontale, ovario duplò brevius.

CLXXIX. PERISTYLUS.

Peristylus. *Blume, Bijdr.* 1, 404.——Benthamia. *Ach. Rich. Orch. Maurit.*

Omnia Platantheræ; sed calyx semper campanulatus et calcar brevissimum sæpiùs scrotiforme.

Although this genus is separated on apparently very slight grounds from *Platanthera* and *Herminium*, yet it collects a natural group of species, and must, I think, be adopted. See observations under *Herminium*, to which I formerly referred all the species.

1. Peristylus Chorisianus.

P. foliis binis lato-ovatis acutis, spicâ paucíflorâ laxiusculâ, bracteis ovatis acuminatis floribus longioribus, sepalis ovatis obtusis membranaceis patentibus, petalis carnosis subrotundo-ovatis conniventibus, labello ovato canaliculato obtuso apice cucullato, calcare brevissimo subtereti.

Habenaria Chorisiana. *Chamisso in Linnæa*, 3, 31.

Hab. in *Unalaschka, Chamisso.* (*exam. s. sp. in herb. Hooker.*)

Caulis vix palmaris. Calcar scrotiforme sec. cl. Chamisso.

2. Peristylus islandicus.

P. caule diphyllo, bracteis foliaceis: inferioribus spicâ 4-5-florâ longioribus, sepalis ovato-lanceolatis, petalis triplò angustioribus, labello lanceolato indiviso, calcare scrotiformi subdidymo.

Hab. in *Islandia.* (*exam. s. sp. in herb. Lehmann.*)

Tota planta vix 4 poll. alta. Folia oblonga, complicata. Flores campanulati, *Herminio Monorchi* duplò majores.

3. Peristylus obsoletus.

P. "labello oblongo lanceolato indiviso, petalis erectis, cornu obtuso scrotiformi, germinibus pedicellatis, scapo nudo, bracteis brevissimis squamæformibus." *W.*

Orchis obsoleta. *Willd. Sp. Pl.* 4, 34.
Habenaria obsoleta. *Spreng. Syst. veg.* 3. *Beck. Bot. M. and N. North Amer. p.* 348.

Hab. in *America septentrionali* in locis umbrosis; a Noveboraco ad Virginiam, *Beck*; Pennsylvania, *Muhlenberg.*

4. Peristylus latifolius.

P. caule basi folioso, foliis 2-3 ovali-oblongis acutis basi amplexicaulibus, spicâ longissimâ cylindraceâ, labello concavo obsoletè trilobo acuminato petalis conformi, calcare apice inflato.

Satyrium latifolium. *Thouars, Orch. Afr. t.* 10.
Benthamia latifolia. *Ach. Rich. Orch. Maur. t.* 7, *no.* 2.
Habenaria chlorantha. *Spreng. Syst.*
Herminium latifolium. *Lindl. in Bot. Reg.* 1499.

Hab. in *Borbonia*, Thouars; *Mauritio*, Bouton. (*hab. s. sp. comm. cel. Bouton.*)

5. Peristylus Commersonianus.

P. "foliis tribus ad basin caulis rosellatis ovali-acutis nervosis; caule gracili; spicâ longâ; floribus minutis; labello subtriangulari, basi subcanaliculato, calcare brevissimo recurvo."

Gymnadenia Commersoniana. *Ach. Rich. Orch. Maurit.* 27, *t.* 4.

Hab. in sylvis *Borboniæ*, Commerson.

6. PERISTYLUS citrinus.

P. foliis 2 caulinis ovato-lanceolatis acuminatis superioribus multo minoribus subulato-acuminatis subtus glandulosis, floribus glandulosis, labello cuneato angulis rotundatis, calcare minimo tereti.

Habenaria citrina. *Thouars, Orch. Afr. t.* 16. *Ach. Rich. l. c. p.* 21, *t.* 3.

Hab. in *Borbonia*, Thouars.

7. PERISTYLUS densiflorus.

P. "bulbis ovalibus indivisis; foliis radicalibus lanceolatis petiolatis; superioribus caulinis spathæformibus; spicâ densâ, calcare scrotiformi." *Brot.*

Satyrium densiflorum. *Brot. Fl. Lusit.* 1, 22.

Hab. in *Lusitania*, Brotero.

8. PERISTYLUS cordatus.

P. caule diphyllo, foliis cordatis acutis, spicâ secundâ, sepalis petalisq. ovato-lanceolatis acutis subæqualibus, labello trilobo basi saccato, squamis antheræ lateralibus elongatis clavatis.

Satyrium diphyllum. *Link. in Schrad. Diar.* 1799, *p.* 323.
Orchis cordata. *Willd. Sp. Pl.* 4, 28.
Habenaria cordata. *R. Br. Prodr.* 312. *Spreng. Syst.* 3, 691. *Hooker in Bot. Misc.* 1, 270, *t.* 55. *Bot. Mag.* 3164.
Herminium cordatum. *Lindl. in Bot. Reg. t.* 1499.

Hab. in *Africâ boreali-septentrionali*, et *Europa australi-occidentali: Lusitania*, Link.; *Tangier, Salzmann; Maderâ*, Lowe; ad truncos arborum putrescentium in sylvâ Las Mercedes *Teneriffæ, Webb et Berthelot.* (*v. v. c. et hab. s. sp.*)

9. PERISTYLUS fallax.

P. folio subsolitario caulino erecto lineari-lanceolato nunc caule longiore, spicâ subsecundâ, sepalis ovatis acutis, petalis subulato-linearibus, labello hastato-trilobo laciniis subæqualibus acutis, calcare brevi conico.

Herminium fallax. *Lindl. in Wall. Cat. no.* 7412.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

10. PERISTYLUS virescens.

P. "labello lanceolato crenato, petalis conniventibus, cornu obtuso scrotiformi, bracteis flore longioribus." *W.*

Orchis virescens. *Muhl. in Willd. Sp. Pl.* 4, 37.

Hab. in *Pennsylvania*, Muhlenberg.

Unknown to North American botanists. Is it not some state of *Peristylus viridis*, or *bracteata?*

11. PERISTYLUS bracteatus.

P. caule folioso, foliis oblongis obtusis vel retusis sursum angustatis et acutioribus, spicâ laxâ, bracteis foliaceis acuminatis floribus duplò triplòque longioribus, petalis linearibus erectis, labello lineari truncato subcuneato angulis apice nunc productioribus calcare inflato brevi.

Orchis bracteata. *Willd. Sp. Pl.* 4, 34. *Salisb. Paradis. t.* 110.
Habenaria bracteata. *R. Br. in H. Kew.* 5, 192. *Sweet Fl. Gard. O. S.* 1, 62. *Pursh.* 2, 587. *Exot. Fl.* 3, *t.* 175.

β.? angulis ovarii alatis crispis.

Hab. in *America septentrionali* frequens; etiam in *Sibiria* ad Georiefsk, *Prescott*; β. in *Sibiria*, *Id.* (*hab. s. sp.*)

I doubt whether this plant is really distinct from *P. viridis*; at least, I can find no mark of distinction beyond the length of the bracts. The lip has either two or three terminal teeth. My Siberian specimens are identical with those from North America.

12. Peristylus viridis. *Lindl. Synops. Brit. Fl. 2d edit. p.* 261.

P. caule folioso, foliis oblongis inferioribus obtusissimis, spicâ densâ obtusâ, bracteis foliaceis floribus longioribus, petalis linearibus erectis, labello lineari abruptè tridentato dente intermedio minore, calcare brevi inflato.

Satyrium viride. *Linn. Sp. Pl.* 1337. *Eng. Bot. t.* 94.
Orchis viridis. *Swartz. Act. Holm.* 1800, *p.* 207. *Willd. Sp. Pl.* 4, 33.
Habenaria viridis. *Brown in Hort. Kew.* 5, 192. *Hooker, Fl. Lond. c. ic.*
Gymnadenia viridis. *Rich. Annot.*
Platanthera viridis. *Lindl. Synops.* 261.
Himantoglossum viride. *Rchb. Fl. Excurs. p.* 119.

Hab. in alpinis turfosis omnis *Europæ* et *Asiæ* occidentalis; etiam in agro Alabama *Americæ septentrionalis, Drummond.* (*hab. s. sp.*)

13. Peristylus albidus. *Lindl. l. c.*

P. caule folioso, foliis inferioribus oblongis obtusis supremis acutis canaliculatis, spicâ cylindraceâ multiflorâ, bracteis acutis florum longitudine, petalis ovato-subrotundis, labello trifido laciniis subæqualibus acutis, calcare brevi tereti obtuso.

Satyrium albidum. *Linn. Sp. Pl.* 1338. *Eng. Bot. t.* 505.
Orchis albida. *Swartz. Act. Holm.* 1800, *p.* 207. *Willd. Sp. Pl.* 4, 38. *Fl. Danica, t.* 115.
Orchis alpina. *Crantz. Stirp. Austr.* 486.
Habenaria albida. *Brown in H. Kew.* 5, 193. *Hooker, Fl. Lond. c. ic.*
Gymnadenia albida. *Rich. Annot. p.* .
Platanthera albida. *Lindl. Synops.* 261.

Hab. in alpinis *Europæ.* (*hab. s. sp.*)

14. Peristylus Hamiltonianus.

P. foliis (pluribus) lanceolatis acuminatis spicâ densâ cylindraceâ longioribus, bracteis setaceo-acuminatis floribus multò longioribus, sepalis petalisq. obtusis conformibus æqualibus, labello rotundato tridentato, calcare orbiculari.

Herminium Hamiltonianum. *Lindl. in Wall. Cat. no.* 7069.

Hab. in collibus Morang, *Indiæ orientalis, Hamilton.* (*hab. s. sp. e Museo Anglo-Indico.*)

15. Peristylus goodyeroides.

P. caule basi laxè vaginato medio folioso, foliis ovato-oblongis acutis abruptè in squamis acuminatissimis transeuntibus, spicâ longâ cylindraceâ, sepalis petalisque ovatis acutis subæqualibus, labello tripartito laciniis ovatis acutis, calcare rotundo inflato.

Habenaria goodyeroides. *Don. Prodr. Nep.* 25.
Herminium goodyeroides. *Lindl. in Wall. Cat. no.* 7066.

β. floribus minoribus, spicis foliisq. brevioribus.

Habenaria affinis. *Don. l. c.*

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico; β. comm. cel. Lambert.*)

Caulis altitudine variat a palmari ad sesquipedalem.

Flores ochroleuci.

16. Peristylus plantaginea.

P. foliis (3) erectis oblongo-lanceolatis acutis spicæ ferè æqualibus, sepalis ovatis, petalis subrotundis obtusis, labello rotundato obtusè tridentato, calcare sphæroideo.

Herminium plantagineum. *Lindl. in Bot. Reg.* 1499.

Hab. in *Zeylona, Macrae.* (*hab. s. sp.*)

17. Peristylus constricta.

P. caule basi laxè vaginato medio folioso, foliis pluribus oblongo-lanceolatis scapo brevioribus abruptè in squamis acuminatis transeuntibus, sepalis lineari-lanceolatis acuminatis, petalis conformibus duplò angustioribus, labello trifido: laciniis acuminatis lateralibus angustioribus et longioribus, calcare vesicato.

Platanthera constricta. *Lindl. in Wall. Cat. no.* 7043.
Herminium constrictum. *Bot. Reg. l. c.*

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

18. Peristylus gracilis. *Blume, Bijdr.* 2, 404.

P. " foliis lineari-lanceolatis acuminatis, labelli limbo 3-partito, laciniis lateralibus angustissimis, media lanceolata, calcare subclavato."

Hab. in *Java*; in sylvis montium Seribu Provinciæ Buitenzorg, *Blume.*

19. Peristylus grandis. *Blume, l. c. t.* 30.

P. " foliis lato-oblongis acuminatis, labelli limbo semitrifido, calcare obtuso."

Hab. in *Java*; in sylvis humidis montis Salak, *Blume.*

20. Peristylus aristatus.

P. caule gracili basi nudo vaginato medio folioso, foliis ovato-lanceolatis petiolatis membranaceis abruptè in squamulis quibusdam (2) distantibus transeuntibus, spicâ rarâ pauciflorâ, sepalis ovatis acutis, petalis subulatis majoribus, labello tripartito laciniis lateralibus setaceis flexuosis intermediâ rectâ carnosâ subulatâ longioribus, calcare ovali inflato antice costato.

Hab. in *Zeylona,* in lucis prope Peradeniam, *Macrae.* (*hab. s. sp. et ic. pict.*)

Caulis gracilis pedalis et ultra. Flores minimi herbacei.

? 21. Peristylus atlanticus.

P. foliis lanceolatis maculatis, spicâ densâ brevi obtusâ, sepalis acutis, labello trilobo lobis linearibus angustissimis intermedio longiore et latiore, calcare abbreviato obtuso.

Orchis atlantica. *Willd. Sp. Pl.* 4, 42.
Satyrium atlanticum. *Desf. Fl. Atl.* 2, 319.

Hab. in *Atlantide,* Desfontaines.

Caulis semipedalis. An *P. albido* affinis? An potius *Acerati* amandandus?

CLXXX. SACCIDIUM.

Sepala conniventia, lateralia labello supposita et saccata. Petala carnosa spathulata duplò longiora. Labellum posticum magnum convolutum apice carnosum et divisum brevi-calcaratum. Anthera reclinata, loculis basi distantibus adnatis. Pollinia parva, glandulâ vix a caudiculâ crassâ distinguendâ.——Folia ...... Caulis pilosissimus. Spica longa, cylindracea, densissima. Flores parvi.

The saccate lateral sepals and whole habit separate this from Peristylus and Platanthera; to say nothing of the very curious lip.

1. Saccidium pilosum.

Orchidea pilosa. *Burch. Cat. Geogr. no.* 7483.

Hab. ad *Caput Bonæ Spei, Burchell.* (*exam. s. sp. in herb. Burchell.*)

Folia nulla adsunt in unico exemplari quod coram habeo. Caulis subpedalis pennæ columbinæ crassitudine, purpurascens, pilis longis divaricatis vestitus. Spica 8 poll. longa, densissima. Bracteæ ovatæ acuminatæ pilosæ ovario breviores. Flores glabri, 4 lineas longi. Sepala æqualia ovata acuta, lateralia acutè saccata. Petala spathulata, obtusa, scabriuscula, sepalis duplò longiora. Labellum magnum, convolutum, petalorum longitudine, cuneatum, tridentatum; dentibus carnosis æqualibus trilobis intermediâ nunc integrâ. Calcar breve incurvum subconicum.

CLXXXI. PACHITES.

Sepala patentia, impare paulo majori. Petala et labellum posticum ecalcaratum conformia. Anthera stipitata, resupinata, loculis basi ferè adnatis non elongatis divergentibus; glandulis nudis. Stigma brachiis duobus canaliculatis a fronte et rostello subquadrato crassissimo inter brachia et antheram interposito.——Herba rigida, foliis radicalibus gramineis, spicâ crassâ rigidâ, floribus parvis.

A very curious plant, with a rostellum so thick and large as completely to cut off the anther from the stigmatic processes or arms, which project forward like two horns. The anther is like that of Repandra.

1. Pachites appressa.

Orchidea appressa. *Burch. Cat. Geogr. no.* 7356.

Hab. ad *Caput Bonæ Spei, Burchell.* (*exam. s. sp. in herb. Burchell.*)

Planta sesquipedalis, rigida, crassa, exsiccatione ferruginea. Radices videntur fibrosæ. Folia radicalia 4 uncias longa, linearia, carnosa, basi valdè membranacea et dilatata. Spica ferè pedalis, densissima, cylindracea, floribus arctè appressis. Bracteæ longè acuminatæ, appressæ,

floribus longiores. Sepala 3-4 lineas longa, ovata, concava, acuta, impare lateralibus latiore. Petala ovato-oblonga acuta; labellum ejusdem formæ sed angustius; omnia patula.

CLXXXII. CŒLOGLOSSUM.

Cæloglossum. *Lindl. in Bot. Reg.* 1701.

Sepala conniventia, æqualia, libera. Petala conformia, ungui labelli adnata. Labellum carnosum, unguiculatum, calcaratum, tripartitum, disco sæpius tuberculatum; ungue valde carnoso, concavo, ascendente, margine nunc eroso et glanduloso, sæpiùs (an semper) processus 2, carnosos, clavatos, ex ore calcaris ortos, parallelos, adnatos gerente. Anthera parva, cavitate unguis brevior, lobis basi ascendentibus, rostello tridentato brevi adnatis. Glandulæ nudæ.———Herbæ, (Indicæ,) radicibus testiculatis, caule folioso aut vaginato. Flores omnium minuti.

1. Cœloglossum lacertiferum.

C. foliis radicalibus 2-3 oblongo-lanceolatis cæteris squamæformibus acutis appressis, spicâ gracili rarâ, bracteis acuminatis ovarii longitudine, labello lineari medio callo magno elevato apice trilobo lobis linearibus acuminatis intermedio longiore, calcare ovato inflato obliquo acuto.

Gymnadenia? tenuiflora. *Lindl. Wall. Cat. no.* 7055.

Hab. in *Tavoy, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

2. Cœloglossum acuminatum.

C. foliis pluribus radicalibus oblongo-lanceolatis cæteris acuminatis squamæformibus, spicâ rarâ multiflorâ, bracteis acuminatis florum longitudine, labello tripartito basi bicalloso laciniis setaceis divaricatis intermediâ breviore, ungue marginato crispo, calcare ovato inflato apiculato.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

This plant has been sent from India by Dr. Wallich under the name of *Goodyera glabrata.*

3. Cœloglossum brevifolium.

C. foliis radicalibus parvis ovato-lanceolatis cæteris minutis acuminatis squamæformibus, spicâ rarâ gracili, bracteis acuminatis ovarii longitudine, labello tripartito laciniis lateralibus linearibus obtusis intermediâ ovatâ breviore, calcare clavato pendulo labello longiore.

Habenaria micrantha. *Wall. MSS.*

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Is it possible that *Habenaria gracilis,* Colebrooke MSS. and Hooker, Exot. Fl. t. 135, is this plant? If not, I am acquainted with no Indian species to which the drawing can be referred.

4. Cœloglossum densum.

C. caule folioso, foliis lanceolatis acuminatis sensim decrescentibus, spicâ oblongâ densâ, bracteis acuminatis floribus æqualibus, labello tripartito laciniis lateralibus setaceis intermediâ lineari breviore: unguis margine incrassato undulato, calcare pendulo labello duplò longiore.

Gymnadenia? tenuis. *Lindl. in Wall. Cat. no.* 7057.

Hab. in montibus *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

5. Cœloglossum secundum.

C. caule folioso, foliis oblongo-lanceolatis acuminatis planis, spicâ densâ secundâ, bracteis ovato-lanceolatis setaceo-acuminatis foliaceis floribus longioribus, labello tripartito laciniis lateralibus filiformibus intermedio lineari triplò breviore, ungue lineari margine eroso, calcare scrotiformi apiculato.

Gymnadenia secunda. *Lindl. in Wall. Cat. no.* 7054.

Hab. verosimiliter in montibus *Mysorensibus.* (*hab. s. sp. e Mus. Angl. Ind.*)

The specimens of this plant were distributed by Dr. Wallich without any locality being assigned to them. Being from Heyne's Herbarium they could not have been from the North of India, but were probably from the Ghauts or from Ceylon.

CLXXXIII. MONOTRIS.

Monotris. *Lindl. in Bot. Reg.* 1701.

Sepala membranacea, posticè connata, lateralibus anticè distinctis, labello petalisque duplò minora. Petala carnosa, acuminata. Labellum liberum, apice carnosum, trifidum, cucullatum, basi cornutum. Anthera libera, erecta, loculis basi divergentibus: valvulis exterioribus dilatatis, incurvis, glandulam tegentibus.——Radices testiculatæ. Folium minimum radicale. Caulis retrorsum hispidus. Flores parvi secundi. Bracteæ et sepalorum margines hispida.

1. Monotris secunda.

Orchidea hispida. *Burch. Cat. Geogr. no.* 6369.

Hab. ad *Caput Bonæ Spei, Burchell.* (*exam. s. sp. in hb. Burchell.*)

Planta facie *Holotrichis parvifoliæ.* Folium unum solitarium minimum ovatum hispidum. Caulis aphyllus retrorsum hispidus. Bracteæ cucullatæ, strigoso-hispidæ, floribus duplò breviores. Calyx tridentatus ciliatus. Petala ovata, acuminata, carnosa, calyce duplò longiora. Labellum petalis parallelum, basi infundibulare, apice carnosum trilobum, lobis lateralibus unidentatis intermedio paulò brevioribus.

CLXXXIV. SCOPULARIA.

Scopularia. *Lindl. in Bot. Reg.* 1701.

Calyx membranaceus, connivens, sepalis lateralibus minoribus. Petala membranacea, lacero-multifida, circa labellum convoluta. Labellum erectum, convolutum, membranaceum, calcaratum, apice lacero-multifidum. Anthera libera, erecta; loculis approximatis, parallelis, basi dilatatis ascendentibus cucullum magnum inæquilateralem glandulas tegentem formantibus. Glandulæ polliniorum sub basi dilatatâ loculorum antheræ absconditæ, cucullo nullo (quantum videre potui) inclusæ.

——— Radices testiculatæ. Folia radicalia membranacea. Caulis aphyllus. Spica elongata subsecunda.

1. Scopularia Burchelli.

Orchidea pectinata. *Burch. Cat. Geogr. no.* 6709.

Hab. ad *Caput Bonæ Spei, Burchell. (exam. s. sp. in herb. Burchell.)*

Radices testiculatæ, lanatæ. Folia radicalia verosimiliter 2, membranacea, suborbiculata? Caulis pilosus 8 poll. altus, omnino nudus nisi squamulis quibusdam distantibus juxta fastigium. Spica $5\frac{1}{2}$ poll. longa, multiflora. Bracteæ ovatæ, acutæ, glabræ, ovario multo breviores. Flores parvi. Sepala ovata acuta, impar majus et longius. Petala cuneata, membranacea, calyce longiora, apice capillaceo-multifida. Labellum cum petalis convolutum, trilobum; lobis lateralibus bifidis acutis intermedio rotundato margine capillaceo-multifido.

CLXXXV. AOPLA.

Aopla. *Lindl. in Bot. Reg.* 1701.

Calyx bilabiatus. Sepala lateralia deflexa, supremum erectum cum petalis agglutinatis galeam formans. Labellum lineare, ecalcaratum. Anthera brevis, erecta, lobis brevibus ascendentibus, rostello decurvo elongato. Glandulæ nudæ.———Herba (Indica) radicibus testiculatis. Folium solitarium, radicale. Spica laxa secunda. Flores herbacei.

1. Aopla reniformis.

Herminium reniforme. *Lindl. in Wall. Cat. no.* 7067.

Hab. in *Napalia, Wallich. (hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.)*

Folium solitarium suborbiculatum cordatum. Sepalum supremum petalaq. conniventia: inferiora subparallela porrecta; labellum lineare esaccatum.

CLXXXVI. HERMINIUM.

Herminium. *R. Brown in Hort. Kew. ed.* 2.——Chamorchis. *Rich. Annot. p.* 35.

Sepala membranacea, subæqualia, conniventia. Petala magis carnosa, labello subconformia. Labellum carnosum, sæpius vix petalis longius, rhomboideum, integrum, vel tridentatum; basi nunc planiusculum, sæpiùs saccatum v. gibbosum. Columna utrinque squamâ (antherâ sterili) instructa. Anthera erecta, minuta, loculis basi divergentibus. Rostellum planum. Pollinia glandulis nudis.———Herbæ, radicibus testiculatis. Flores parvi, sæpius herbacei, nunc albi.

As limited by Dr. Brown, this genus was confined to *H. monorchis*, and was characterized by the naked glands of the pollen masses, and the spurless labellum. Richard adopted Dr. Brown's views, but added the flat rostellum to its character. But, the labellum of *H. monorchis* being distinctly saccate, the genus might be considered to represent a group of species in which, as in *Aceras*, a short spur may be expected to occur: and in reality, upon studying the exotic Ophrydeæ, it is impossible not to

observe that there is a number of plants resembling *H. monorchis* in habit, but differing in having a short and, usually, inflated spur. In some respects it might be advisable to combine all these plants under one generic name; and I formerly thought of adopting this plan; but upon a more mature consideration of the numerous unpublished species with which I have since become acquainted, I have been obliged to abandon the opinion. This point settled, the next question naturally was, are they to be placed in *Platanthera*; with which they may easily be made to combine technically. There is, however, a certain peculiarity of appearance in the calcarate Herminia which is unfavourable to their combination with Platanthera; and, upon the whole, I have at last made up my mind that the best course to take is to adopt Blume's genus Peristylus for all the plants that would be Herminia if they had not a spur, confining the latter genus to the absolutely spurless species.

Chamorchis of Richard has undoubtedly a folded rostellum; but at the same time the plicature exists in so very inconsiderable a degree, and the plant agrees so nearly with true Herminia in habit, that I am not willing to consider it distinct.

1. Herminium monorchis. *R. Rrown in Hort. Kew. l. c.*

H. foliis radicalibus binis ovato-oblongis, labello petalisque tridentatis, spicâ longâ cylindraceâ pedunculatâ.

Ophrys monorchis. *Linn. Sp. Pl.* 1342. *Willd. Sp. Pl.* 4, 61. *E. Bot. t.* 71.
Orchis monorchis. *Crantz. Austr.* 478.
Satyrium monorchis. *Pers.*
Arachnites monorchis. *Hoffm. sec. Rchb. Fl. Exc.* 119.
Herminium monorchis. *Rich. Annot. Hooker in Fl. Lond. c. ic.*

Hab. in pratis sæpiùs subalpinis *Europæ* et *Asiæ occidentalis.* (*v. v. sp.*)

2. Herminium alpinum. *Lindl. in Bot. Reg.* 1499.

H. foliis linearibus gramineis, labello ovato repando petalis acutis duplò majore, spicâ pauciflorâ foliis breviore.

Ophrys alpina. *Linn. Sp. Pl. Jacq. Vind. t.* 9.
Orchis graminea. *Crantz. Fl. Austr.*
Chamorchis alpina. *Rich. Orch. Europ.* 35.

Hab. in alpibus *Europæ.* (*hab. s. sp.*)

3. Herminium gramineum. *Lindl. in Wall. Cat. no.* 7413.

H. folio radicali lanceolato canaliculato, labello integerrimo concavo acuminato petalis duplò breviore, spicâ secundâ elongatâ.

Neottia monophylla. *Don. Prodr.*

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

4. Herminium congestum. *Lindl. in Wall. Cat. no.* 7068.

H. foliis erectis oblongis apice latioribus spicæ densæ subæqualibus, bracteis squamæformibus ovario brevioribus, sepalis ovatis obtusis, petalis ovalibus subæqualibus, labello ovato integro convexo basi gibboso et marginato. *Bot. Reg.* 1499.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Museo Anglo-Indico.*)

CLXXXVII. HABENARIA.

Habenaria. *Willd. Sp. Pl.* 4, 44.

Perianthium Orchidis. Calcar elongatum. Columna libera reclinata. Anthera basibus loculorum solutis divergentibus canalibus stigmaticis adhærentibus. Glandulæ nudæ. Rostellum planum, antheræ adnatum. Processus carnosi 2 stigmatici, ultra antheram projicientes, sæpiùs ori calcaris adnati, formâ varii.———Habitus Orchidis.

As now limited, this extensive genus comprehends all the species of Ophrydeæ with a small rostellum, naked glands, and a long spur, provided they have two fleshy processes of the stigma projecting from the back of the mouth of the spur. I formerly intended to define the genus in another manner; but a very careful re-examination of every species to which I have access convinces me that these are the surest characters we can depend upon.

A. Erostres; ovariis pedunculatis subcylindraceis, aut fusiformibus, nunquam rostratis. ——*Pleræque Americanæ.*
- § 1. Petala 2-3-fida.
  - * Sepalum supremum petalis angustius.
  - ** Sepalum supremum petalis majus.
    - *a.* Petalorum laciniæ latitudine subæquales.
    - *b.* Petalorum lacinia anterior angustior et elongata.
    - *c.* Petalorum lacinia anterior nana.
- § 2. Petala indivisa. Henidia.
  - *a.* Labellum simplex, vel laciniis lateralibus minimis.
  - *b.* Labellum trifidum, laciniis filiformibus indivisis.
  - *c.* Labellum trifidum, laciniis lateralibus dilatatis v. fissis.

B. Rostratæ; ovariis sessilibus apice angustatis sæpiùs longè rostratis.——*Omnes Indicæ.*

A. Erostres.

§ 1. Petala 2-3-fida.

* *Sepalum supremum petalis angustius.*

1. Habenaria rotundifolia.

H. folio solitario radicali subrotundo-cordato plano obtuso, racemo 3-floro: floribus longè pedunculatis, petalis latissimis ovatis acutis: laciniâ anteriore subulatâ, labelli tripartiti laciniis subæqualibus intermediâ latiore, calcare incurvo clavato obtuso labello paulo longiore.

Habenaria? grandiflora. *Lindl. in Wall. Cat. no.* 7032.

Hab. in *India orientali.* (*hab. s. sp. ex herb. Anglo-Ind.*)

Semipedalis. Flores mediocres, quapropter nomen *grandifloræ* rejeci. Sepala explanata, subæqualia, ovata, acuta. Omnes partes glabræ.

* * *Sepalum supremum petalis majus.*

a. Petalorum laciniæ latitudine subæquales.

2. Habenaria abortiens.

H. foliis lanceolatis erectis, racemo elongato multifloro: bracteis foliosis florum ferè longitudine, sepalo supremo nano, petalis minimis laciniâ anteriore latiore bifidâ, labelli tripartiti laciniâ intermediâ lineari obtusâ lateralibus dimidio brevioribus subulatis, calcare clavato acuminato labello longiore, basibus antheræ elongatis.

Hab. in *Peruvia, Hænke.* (*exam. s. sp. in herb. Martii.*)

Radices tomentosæ, tuberculo in exemplo nullo. Caulis bipedalis densè

foliosus. Sepala maxima, reflexa, falcata. Processus carnosi lanceolati, decurvi. Anthera omninò horizontalis.

3. Habenaria digitata.

H. foliis ovato-oblongis undulatis acutis, racemo laxo elongato multifloro, bracteis lanceolatis ovarii longitudine, petalis bipartitis; laciniis linearibus anticis cum basi labelli connatis, labelli tripartiti laciniis subæqualibus linearibus acutis calcare clavato acuto brevioribus.

Bonatea punduana. *Lindl. in Wall. Cat. no.* 7063.
Bonatea herbacea. *Wallich.*

Hab. in *India orientali* supra montes Punduanas, *Wallich.* (*hab. s. sp. e Museo Anglo-Ind. et v. ic. pict.*)

Caulis 1-2-pedalis, foliosus. Flores parvi, herbacei, laciniis subulatis basi albis. Sepalum supremum suborbiculatum. Processus carnosi oblongi et bases antheræ longo intervallo distantes. Ut *Bonatea* lacinias habet anteriores petalorum cum labello connatas; sed stigma est *Habenariæ* nec prioris generis.

4. Habenaria secunda.

H. . . . . . . racemo denso subsecundo multifloro, bracteis lanceolatis acuminatis florum ferè longitudine, petalis bipartitis: laciniis anterioribus falcatis paulò angustioribus et longioribus, labelli tripartiti laciniis linearibus obtusis subæqualibus, calcare pendulo crasso clavato.

Hab. in *Brazilia* prope Rio Janeiro. (*hab. s. sp.*)

Apicem racemi tantùm possideo. Sepala subæqualia, supremum latissimum complicatum subcordatum, lateralia explanata. Antheræ partes putridæ haud examinatu idoneæ sunt.

5. Habenaria pentadactyla.

H. foliis angustè lanceolatis carinatis, racemo laxo multifloro, bracteis foliaceis acuminatis ovarii arcuati longitudine, petalis bipartitis a galea plana liberis: laciniis posterioribus membranaceis conniventibus anterioribus linearibus carnosis patentissimis longioribus, labelli tripartiti carnosi sepalis brevioris laciniis linearibus æqualibus, calcare clavato apice ventricoso ovarii longitudine.

Hab. in *Bonaria* in paludosis, *Tweedy.* (*hab. s. sp. comm. cel. Hooker.*)

Caulis spithamæus, dimidiâ ferè omni superiore floridâ. Folia 2½ poll. longa. Sepala patentissima; superiore subrotundo breviore.

6. Habenaria macrostachya.

H. foliis obovato-lanceolatis in petiolo angustatis, racemo laxo multifloro, bracteis lineari-lanceolatis acuminatis ovario subæqualibus, petalis bipartitis: laciniis setaceis longissimis divaricatis æqualibus, labelli tripartiti laciniis subæqualibus setaceis, calcare cylindraceo pendulo acuto, sepalis acuminatis.

Hab. in umbrosis *Zeylonæ,* florens Octobre, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Caulis sesquipedalis et ultra, basi squamatus; tuberculo oblongo integro. Folia atroviridia costa rubescente. Flores herbacei. Sepala æqualia, explanata, non reflexa. Petala et labellum rubro maculata. Processus carnosi lineares, paralleli, obtusi.

7. HABENARIA Salaccensis. *Blume, Bijdr. t.* 13.

H. "labello tripartito; laciniis linearibus media longiore, calcare filiformi ovarium subæquante, sepalis interioribus perianthii basi bipartitis."

Hab. in *Java*; in umbrosis montis Salak, Blume.

H. macrostachyæ valdè affinis videtur, sed petalorum laciniæ anteriores sunt nanæ.

8. HABENARIA arachnoides. *Thouars, Orch. Afr. t.* 18.

H. foliis angustè lanceolatis acutis, racemo laxo multifloro, bracteis ovatis squamiformibus, petalis bipartitis: laciniis linearibus anterioribus longioribus, labelli tripartiti laciniis lateralibus intermediâ duplò brevioribus, calcare filiformi apice inflato obtuso, sepalis lateralibus triangularibus supremo majoribus.

Hab. in *Madagascaria*, Thouars.

Flores flavescentes.

9. HABENARIA bractescens.

H. foliis densis lanceolatis erectis, racemo paucifolio, bracteis foliaceis cucullatis acutis ovario brevioribus, petalis bipartitis: laciniis subæqualibus sinu lato rotundato divisis anteriore carnosâ lineari obtusâ posteriori membranaceæ æquali, labelli tripartiti laciniis carnosis filiformi-lanceolatis æqualibus lateralibus ascendentibus, sepalis subæqualibus patulis supremo galeato, calcare pendulo apice compresso ovario longiore.

Hab. in paludibus *Bonariæ*, *Tweedy*. (*hab. s. sp. comm. cel. Hooker.*)

Subpedalis densè foliosus. Folia verosimiliter mollia, 3 poll. longa. Sepala ½ unciam longa. Processus carnosi antheræ maximi, longissimi, spatulati, apice rotundati.

b. Petalorum lacinia anterior angustior et elongata.

10. HABENARIA macroceras. *Spreng. Syst. veg.* 3, 692. *Hooker, Bot. Mag. t.* 2947.

H. foliis oblongis obtusis, racemo laxo paucifloro, bracteis foliaceis ovarii longitudine, petalis bipartitis: laciniâ anteriore filiformi recurvâ duplò longiore, labelli tripartiti laciniis lateralibus filiformibus recurvis intermediâ breviore lineari emarginatâ, calcare arcuato subclavato ovario triplò longiore, sepalis lateralibus reflexis.

Orchis Habenaria. *Linn. Sp. Pl.* 1331. *Swartz! Obs.* 319, *t.* 9.
Habenaria macroceratitis. *Willd. Sp. Pl.* 4, 44.

Hab. in graminosis depressis subalpinis *Jamaicæ*. (*hab. s. sp. comm. cel. Hooker.*)

Calcare longo curvato nec recto, foliis latis oblongis subundulatis, et spicâ pauciflorâ primâ fronte distinguenda est.

11. HABENARIA longicauda. *Hooker in Bot. Mag. t.* 2957.

H. foliis angustis ovato-lanceolatis acuminatis, racemo laxo paucifloro, bracteis foliaceis ovario brevioribus, petalis bipartitis: laciniâ anteriore filiformi parum longiore, labelli tripartiti laciniis lateralibus filiformibus recurvis intermediâ breviore acutâ, calcare recto pendulo filiformi longissimo, sepalis lateralibus reflexis, processubus carnosis acutis.

Hab. in *Demerara, Parker.* (*hab. s. sp. comm. cel. Hooker.*)

Lacinia posterior petalorum anteriore latior; nec æqualis ut in ic. cel. Hookeri.

12. Habenaria Gourlieana. *Gillies MSS.*

H. foliis angustis ovato-lanceolatis acuminatis, racemo laxo paucifloro, bracteis foliaceis ovario brevioribus, petalis bipartitis: laciniâ anteriore filiformi longissimâ, labelli tripartiti laciniis lateralibus filiformibus recurvis intermediâ breviore acutâ, calcare recto pendulo filiformi ovario duplò longiore, sepalis lateralibus erectis, processubus carnosis obtusis.

Hab. in provinciâ *Mendoza* ubi in locis paludosis semel tantum detegit div. *Gillies.* (*hab. s. sp.*)

Priori simillima, et fortè mera varietas. Flores paulò minores, calcar brevius, et laciniæ anteriores petalorum longissimæ.

13. Habenaria bicornis.

H. foliis angusto-lanceolatis acuminatis, racemo denso stricto ferè corymboso, bracteis ovario recto cylindraceo duplò brevioribus, petalis bipartitis a galeâ planâ liberis: laciniâ anteriore subæquali falcatim cornutâ, labelli tripartiti carnosi laciniis spatulatis subæqualibus sepalorum longitudine, calcare longissimo inflexo apice compresso.

Hab. in *Cuba,* Pöppig. (*exam. s. sp. in hb. Hooker.*)

Caulis 1½-ped. laxè foliosus. Ovarium 1¼ poll. longum. Calcar multò longius. Sep. lat. 4 l. longa, supremo subrotundo obtuso duplò majora. Anthera brevissima, horizontalis, basibus solutis brevissimis ascendentibus. Processus carnosi semioblongi, convexi, paralleli, papillosi.

14. Habenaria maculosa.

H. foliis ovato-lanceolatis undulatis acutis coriaceis basi amplexicaulibus, racemo denso multifloro, bracteis foliaceis ovario brevioribus, petalis bipartitis: laciniâ anteriore setaceâ, labelli tripartiti laciniis linearibus acuminatis subæqualibus, calcare filiformi compresso ascendente ovario paulò longiore, sepalis lateralibus pendulis.

α. lacinia anteriore petalo longiore.

β. lacinia anteriore petalo multo breviore.

Hab. in insulis *Caribæis;* Jamaica, *Macfadgen,* S^t. Vincentii, *Guilding,* Tortola, *Schomburgk,* Barbadoes, *Hb. Vahl.*; β. *Peruvia, Mathews,* 1834. (*hab. s. sp.*)

Radix fibrosa repens. Caulis pedalis ad 2-pedalem, maculis parvis purpureo-fuscis conspersus, præsertim versus basim. Verosimiliter cum *H. brachycerate* confusa; petalis bipartitis et caule maculoso diversissima est.———Anthera parva, basibus solutis longis linearibus. Processus carnosi falcati, glabri.

15. Habenaria Michauxii. *Nutt. Gen. Amer.* 2, 189. *Elliott, Bot. S. Carol.* 2, 489.

H. foliis ovali-lanceolatis, racemo longo multifloro, bracteis acuminatis, petalis bipartitis: laciniis anterioribus setaceis quam sepalum longioribus, labelli tripartiti laciniis lateralibus setaceis intermediâ longioribus, calcare ovario duplò longiore.

Orchis quinqueseta. *Mich. Fl. boreali-Am.* 5, 155. *Pursh, Fl. Am. sept.* 2, 586.

Hab. in *Carolina*; rarissima in pinetis siccis prope Beaufort, Elliott; florens Aug.-Oct.

Bipedalis, densè foliosus. Flores albi.

16. Habenaria repens. *Nutt. Gen. Amer.* 2, 190. *Elliott, Bot. S. Car.* 2, 489.

H. caule basi radicante folioso, foliis angustis lanceolatis erectis, racemo longo densifloro, bracteis acutis, petalis bipartitis: laciniis anterioribus setaceis erectis galeæ æqualibus, labelli tripartiti laciniis subæqualibus lateralibus angustioribus ascendentibus, calcare ovario æquali.

Hab. in palustribus prope Savannah in *Carolina australi* frequens, Elliott; prope Augustam, *Wray*. (*hab. s. sp. comm. cel. Hooker.*)

Præcedenti valdè affinis. Folia minùs conferta, setæ petalorum breves, et calcar ovario minùs longum, necnon ut videtur caulis a basi sua in luto radices longas emittens hanc satis distinguunt.

17. Habenaria maxillaris. *Lindl. in Hooker's Journal Bot. vol.* 1.

H. foliis lineari-oblongis acutis, racemo denso multifloro, bracteis foliaceis ovario longioribus, petalis bipartitis: laciniis æqualibus anteriore lineari acuminata, labelli tripartiti laciniis lateralibus paulò angustioribus et brevioribus, calcare filiformi subclavato, sepalis explanatis æquilongis.

Platanthera foliosa. *Ad. Brongn. Voy. de la Coquille*, *p.* 194, *t.* 38, *B.*

Hab. in *Peruvia Cuming*, D'Urville. (*hab. s. sp.*)

Anthera basibus solutis æqualis; processubus carnosis latis rectis falcatis maxillaribus.

18. Habenaria paucifolia.

H. foliis 2-3 ovato-ensiformibus acuminatis, caule superne squamato, racemo 2-3-floro, bracteis foliaceis ovario duplò brevioribus, petalis bipartitis: laciniis subæquilongis anterioribus filiformibus reflexis, labello tripartito sepalis lateralibus pendulis æquali: laciniâ intermediâ lateralibus latiore et breviore, calcare pendulo curvato ovario breviore.

Hab. in *Chile australi* ad ripas lacus " de Ranco" provincia Valdivia, *Bridges*, (no. 610.) (*hab. s. sp.*)

Radix fibrosus, tuberculo parvo oblongo indiviso. Caulis 6-8 poll. Flores mediocres.

19. Habenaria lancifolia. *Ach. Rich. Orch. Maurit. p.* 20, *t.* 1.

H. foliis lineari-lanceolatis acuminatis, racemo paucifloro laxo, bracteis apice setaceis ovario duplò brevioribus, petalis bipartitis: laciniâ anteriore setaceâ duplò longiore, labelli linearis trifidi laciniis lateralibus divergentibus angustioribus et paulò brevioribus, calcare recto clavato obtusissimo ovarii longitudine.

Hab. in *Mauritio*, Commerson.

Caulis vix pedalis.

20. Habenaria vesiculosa. *Ach. Rich. Orch. Maurit. p.* 20, *t.* 2.

H. foliis oblongo-lanceolatis in petiolum angustatis, racemo multifloro, bracteis apice setaceis ovario brevioribus, petalis bipartitis: laciniâ anteriori filiformi paulò longiore, labelli linearis trifidi laciniis lateralibus divergentibus intermediâ angustioribus et subæqualibus, calcare apice inflato ovarii longitudine.

Hab. in *Mauritio,* Neraud.

Flores virescentes.

21. HABENARIA truncata.

H. foliis ovato-lanceolatis canaliculatis acuminatis, racemo denso cylindraceo, bracteis foliaceis floribus longioribus, petalis bipartitis: laciniis anterioribus setaceis deflexis cum basi labelli connatis, labelli tripartiti porrecti laciniis linearibus acutis subæquilongis intermediâ latiore, calcare clavato pendulo truncato ovario duplò breviore.

Hab. in *Madagascaria.* (*exam. s. sp. in hb. Hook.*)

Planta siccata nigra est. Caulis flexuosus, pedalis, foliis supremis infimis longioribus, sed magis acuminatis et canaliculatis. Labellum est quasi quinquefidum.

22. HABENARIA crassicornis.

H. foliis ovato-oblongis acuminatis, racemo multifloro, bracteis foliaceis acuminatis ovarii longitudine, petalis bipartitis: laciniis lateralibus setaceis ascendentibus, labelli tripartiti laciniis linearibus acutis intermediâ paulò breviore, sepalis lateralibus explanatis acutissimis, calcare recurvo compresso valdè clavato.

Hab. in *Mexico, de Karwinski.* (*exam. s. sp. in hb. Reg. Monac.*)

Vix pedalis. Folia sensim in bracteis decrescentia. Flores mediocres. Sepalum supr. cum pet. galeatum. Processus carnosi magni convexi glabri.

23. HABENARIA flexuosa.

H. foliis oblongo-lanceolatis acutis, floribus distantibus, bracteis foliaceis acuminatis cucullatis ovarii longitudine, petalis bipartitis: laciniis anterioribus filiformibus rectis reflexis galea brevioribus, labelli tripartiti laciniis filiformibus æqualibus, sepalis lateralibus pendulis supremo æqualibus, calcare filiformi compresso recto pendulo ovario duplò longiore.

Hab. in *Mexico,* ad S. Pedro, Oxaca, *de Karwinski.* (*exam. s. sp. in hb. Mart.*)

Caulis subflexuosus, 9 poll. altus, foliis sensim in bracteis decrescentibus.

24. HABENARIA clypeata.

H. foliis parvis ovatis cuspidatis sensim decrescentibus, racemo multifloro, bracteis foliaceis cucullatis acuminatis ovario brevioribus, petalis bipartitis: laciniis anterioribus linearibus horizontalibus posticis cum sepalo supremo rotundato galeam orbiculatam planam efficientibus, labelli penduli tripartiti laciniâ intermediâ lineari-lanceolatâ lateralibus linearibus paulò longiore, calcare compresso ovarii longitudine.

Hab. in *Mexico, de Karwinski.* (*exam. s. sp. in hb. Reg. Monac.*)

Caulis pedalis. Racemus oblongus, multiflorus. Galea orbiculata plana facie omninò peculiari hanc speciem induit.

25. HABENARIA entomantha.

H. foliis parvis ovatis acutis superioribus squamiformibus setaceo-acuminatis, racemo multifloro, bracteis ovatis acuminatissimis ovario duplò brevioribus, petalis bipartitis: laciniis anterioribus longissimis setaceis, labelli

tripartiti laciniâ intermediâ rectâ lineari lateralibus longissimis setaceis, sepalis acuminatis lateralibus pendulis, calcare pendulo compresso ovario longiore.

Orchis entomantha. *Llave, Orch. Mexic.* 2, 8.

Hab. in *Mexico, de Karwinski;* prope Vallisoletum, Llave. (*exam. s. sp. in hb. Reg. Monac.*)

Flores lactei. Caulis pedalis supernè defoliatus. Anguli tres ovarii membranaceo-alati. Anthera parva, basibus solutis brevibus. Processus carnosi breves rotundati hispidi.

26. Habenaria mystacina.

H. foliis vaginantibus linearibus setaceo-acuminatis, racemo multifloro, bracteis foliaceis acuminatis ovarii longitudine, petalis bipartitis: laciniis anterioribus lineari-lanceolatis erectis galea longioribus barbatis posticis glabris, labelli 3-partiti laciniâ intermediâ lineari obtusâ basi lateralibusque longioribus acuminatis barbatâ, sepalis lateralibus pendulis, calcare pendulo compresso ovarii longitudine.

Hab. in *Brazilia;* in campis inter Tejuco et radices montis Itambé, provinciæ Minarum; etiam in summo Itambé, *Martius.* (*exam. s. sp. in hb. Mart.*)

Caules stricti, subaphylli, 2-pedales. Flores parvi, albi. Pili petalorum et labelli articulati, subramentacei. Anthera brevis, basibus solutis elongatis; processus carnosi longi, apice uncinati, glabri.

27. Habenaria nuda.

H. foliis linearibus acuminatis vaginantibus, racemo laxo multifloro, bracteis cucullatis setaceo-acuminatis ovario brevioribus, petalis semiovatis: laciniis anterioribus setaceis ascendentibus, sepalo supremo subrotundo emarginato cuspidato longioribus, labelli tripartiti laciniis lateralibus setaceo-filiformibus intermediâ lineari truncatâ longioribus calcaris longitudine.

Hab. in *Brazilia;* in provincia Minarum, *Martius.* (*exam. s. sp. in hb. Mart.*)

Pedalis et ultrà. Folia angustissima, inferius sæpè falcatim recurvum.

28. Habenaria setacea.

H. foliis linearibus apice setaceis, racemo laxo 5-7-floro, bracteis lineari-lanceolatis setaceo-acuminatis ovario longioribus, ovario arcuato, petalis bipartitis: laciniis anterioribus setaceis ascendentibus galeâ acuminatâ longioribus, labelli tripartiti laciniis setaceis æqualibus, calcare ovarii longitudine, sepalis lateralibus acuminatis.

Hab. in *Brazilia;* in graminosis ad radicem montis Itambé, provincia Minarum, *Martius.* (*exam. s. sp. in hb. Mart.*)

Spithamæa, ferè defoliata. Anthera parva subrotunda, basibus solutis brevibus. Processus carnosi breves dolabriformes.

29. Habenaria gracilis.

H. foliis radicalibus subbinis lanceolatis erectis, caule vaginato, racemo stricto, bracteis lanceolatis acuminatis ovario longioribus, petalis bipartitis: laciniis anterioribus filiformibus galeæ longitudine, labelli tripartiti laciniis filiformibus subæqualibus, calcare arcuato ascendente compresso ovario longiore, sepalis ovatis obtusis lateralibus pendulis.

Hab. in *Brazilia*; provincia Minarum, *Martius.* (*exam. s. sp. in hb. Mart.*)

Pedalis et paulò major, habitu ob caulem distanter vaginatum gracilescente. Flores densi, ob ovarium rectiusculum nec more solito arcuatum. Anthera parva subrotunda, basibus solutis brevibus. Processus carnosi breves obtusi.

30. Habenaria aranifera.

H. foliis paucis lanceolatis erectis, racemo elongato denso, bracteis ovato-lanceolatis ovarii hexagoni longitudine, petalis bipartitis: laciniis a galea liberis projicientibus lateralibus e lata basi setaceis, labelli tripartiti laciniis linearibus æqualibus sepalorum longitudine, sepalis ovatis subæqualibus, calcare filiformi crassiusculo ovarii longitudine.

Hab. in *Bonaria* in paludosis, *Tweedie.* (*hab. s. sp. comm. cel. Hooker.*)

Caulis pedalis. Folia $2\frac{1}{2}$-poll. longa. Petala bipartita porrecta, cum laciniis setaceis flexuosis et labello tripartito insectum simulant cujus caput est anthera parva rotunda.

31. Habenaria imbricata.

H. foliis lineari-oblongis obtusis cum mucrone sensim in squamis acuminatis caulis decrescentibus, racemo denso multifloro, bracteis foliaceis imbricatis floribus æqualibus, petalis bipartitis: laciniis lateralibus setaceis posteriorum ovatarum acutarum longitudine, labelli tripartiti laciniâ intermediâ lineari-lanceolatâ obtusâ lateralibus setaceis arcuatis subæquali, sepalis margine serrulatis, calcare pendulo clavato ovario longiore inter bracteas latente.

Hab. in *Brazilia*; *Martius.* (*exam. s. sp. in hb. Mart.*)

Pedalis. Folia majora vix 2 poll. long. excedunt. Flores solito minores, siccatione pallidi nec nigricantes. Margo sepalorum est pruinoso-serrulatus. Anthera parva subrotunda. Processus carnosi crassi cuneati.

32. Habenaria ichneumonea.

H. "labello tripartito: laciniis linearibus, calcare lineari incurvato apice ovato, calyce 7-phyllo, foliolis lateralibus exterioribus majoribus reflexis."

Orchis ichneumonea. *Swartz in Pers. Syn.* 2, 506.

Hab. in *Sierra Leone*, Afzelius.

33. Habenaria membranacea.

H. "labello 3-partito: laciniis lateralibus lanceolato-linearibus, apice longissimo capillaceo, media lineari, calcare subulato germine breviore incurvo, calyce septemphyllo."

Orchis membranacea. *Swartz in Pers. Syn.* 2, 506.

Hab. in *Sierra Leone*, Afzelius.

34. Habenaria trifida. *Humb. et Kunth. n. g. et sp. pl.* 1, 330. *Synops.* 1, 323.

H. "caule paucifloro, foliis lanceolato-oblongis, foliolis calycinis tribus interioribus trifidis."

Hab. in locis temperatis opacatis Regni *Novo Granatensis*, inter villam San Miguel et convallem Guachicon, prope Almaguer, alt 810 hexap. Floret Novembri. *Humboldt.*

Caulis sesquipedalis. Folia acuta, carinata, sesquipoll. Sepala subæqua-

lia, ovata, albovirescentia, 5 lin. longa. Petala alba, sepalis paulò longiora: laciniis linearibus obtusis, inferiore a superioribus approximatis divergente. Labellum album, laciniis linearibus approximatis. Calcar bipollicare, pendulum, apice emarginatum et bituberculatum; ex *Kunth.*

c. Petalorum lacinia anterior nana.

35. Habenaria montevidensis.

H. foliis lanceolatis canaliculatis acuminatis, racemo oblongo densissimo, bracteis acuminatis florum longitudine, petalis carnosis bipartitis: laciniis anterioribus nanis acutis, labelli carnosi tripartiti laciniis æqualibus intermediâ latiore, calcare oblongo recto inflato labello longiore, sepalis patulis.

Hab. in *Montevideo; Commerson, Tweedy.* (*exam. s. sp. in hb. Vahl. et Hook.*)

Caulis 4-5 poll. altus. Folia superiora vaginantia, acuminatissima. Flores herbacei.

36. Habenaria brevidens.

H. foliis inferioribus ovalibus acutis superioribus cucullatim vaginantibus, racemo denso stricto multifloro, bracteis acuminatis ovarii longitudine, petalis carnosis antice unidentatis, labelli carnosi tripartiti laciniâ intermediâ lineari-ensiformi obtusiusculâ lateralibus subfalcatis æquilatis duplò longiore, calcare clavato pendulo ovarii longitudine.

Hab. in *Brazilia;* provincia Minarum, *Martius.* (*exam. s. sp. hb. Mart.*)

Caulis subpedalis. Folia radicalia ferè 2 poll. longa. Sepalum supr. subrotundum mucronatum; lateralia pendula acuta. Antheræ steriles subrotundæ denticulatæ. Processus carnosi lineares falcati obtusi.

37. Habenaria parviflora.

H. foliis lineari-lanceolatis erectis canaliculatis, racemo cylindraceo multifloro, bracteis acuminatis flore longioribus, petalorum laciniâ anteriore falcatâ posteriore duplò breviore, labelli tripartiti laciniis deflexis subæquilongis lateralibus angustioribus, calcare filiformi pendulo ovarii breviore.

Hab. in *Brazilia,* frequens; prope Bahiam, *Salzmann;* in monte Corcovado ad Rio Janeiro, *Martius, Princeps Neovidensis, &c.* (*hab. s. sp. comm. cel. Prescott.*)

Caulis strictus 1-2-pedalis, foliis strictis angustis sursum decrescentibus vestitus. Spica 4-6 poll. longa, siccatione nigricans. Flores albovirides. Anthera subrotunda, basibus solutis brevissimis. Processus carnosi cuneati truncati.

38. Habenaria angustifolia. *Humb. et Kunth. n. g. pl.* 1, 330. *Synops.* 1, 323.

H. "caule paucifloro, foliis lanceolatis, foliolis calycinis interioribus bifidis, labello trifido."

Hab. in humidis uliginosis *Guyanæ,* inter El Trapiche de Farreras et urbem S. Thomas del Angostura. Floret Junio. *Humboldt.*

Caulis pedalis. Folia acuminata, carinata, tripollicaria, 6 l. lata. Petalorum lacinia superior oblonga, inferior triplò brevior. Labelli laciniæ lineares. Calcar pollicare; ex *Kunth.*

39. Habenaria latifolia. *Humb. et Kunth. n. g. et sp. pl.* 1, 331. *Synops.* 1, 323.

H. "foliis ovato-oblongis; floribus spicatis; foliolis calycinis interioribus lateralibus bifidis; labello trifido."

Hab. in declivitate orientali *Andium Novo-Granatensium*, prope Santa Anna et Mariquita, alt. 400 hexap. Floret Junio. *Humboldt.*

Caulis 1½-ped. Folia acuta, bipoll. 9-10 l. lata. Spica 2-3 poll. Bracteæ floribus paulò breviores. Sepala 3 l. longa ovato-oblonga, obtusa. Petalorum lacinia inferior superiore obtusâ triplò brevior. Labelli laciniæ lineares divergentes. Calcar pendulum, 9 l. longum; ex *Kunth.*

40. Habenaria leptoceras. *Hooker in Bot. Mag. t.* 2726.

H. foliis lanceolatis undulatis planis basi angustatis, racemo longo laxiusculo, bracteis foliaceis ovarii longitudine, petalorum laciniâ anteriore acutâ ascendente posteriore duplò breviore, labelli tripartiti laciniâ intermediâ lineari-acuminatâ apice dilatatâ lateralibus falcatis triplò longiore, calcare filiformi compresso pendulo ovario longiore, sepalo supremo compresso cuspidato cucullato, basibus solutis antheræ longissimis.

Hab. in *Brazilia*; prope Rio Janeiro, *Forbes.* (*hab. s. sp. ex hb. Hort. Soc.*)

Caulis 1-1½-pedalis, foliis undulatis erectis densè vestitus. Flores virides, labello lutescente, calcare albo. Sepala lateralia concava. Bases soluti antheræ processubus carnosis obtusis multo longiores, facillimè a canalibus glanduliferis separabiles.

§ 2. Petala indivisa.

a. Labellum simplex, v. laciniis lateralibus minimis.

41. Habenaria brachyceras. *Spreng. Syst.* 3.

H. foliis angusto-lanceolatis acuminatis patentibus, racemo laxiusculo multifloro, petalis ovatis acuminatis infra galeam obtusam invicem trajicientibus, labello filiformi subclavato integerrimo, calcare apice compresso ascendente ovario 3-ptero breviore.

Orchis monorhiza. *Swartz! Prodr.* 118. *Fl. Ind. Occ.* 3, 1391.
Habenaria brachyceratitis. *Willd. Sp. Pl.* 4, 44.

Hab. in depressis montium *Jamaicæ, Swartz.* (*hab. s. sp. comm. cel. Hooker.*)

Caulis 1½-2-pedalis erectus, foliosus. Folia summa tantum decrescentia. Processus carnosi oblongi obtusi paralleli ultra antheram longè producti. Alæ ovarii latæ, membranaceæ.

I know no plant which will answer to Swartz's description of *O. monorhiza* in the *Flora Indiæ Occidentalis.* West Indian botanists often take *Habenaria maculosa* for it; but that species has two parted petals. Others consider this to be his plant, but it has a simple lip; yet in Vahl's Herbarium is a specimen of this from Swartz himself marked *O. monorhiza.* In all probability he confounded the two, for both are common Jamaica plants; they are, however, essentially different, as may be seen by comparing the descriptions.

42. Habenaria obtusa.

H. foliis oblongo-lanceolatis canaliculatis erectis, racemo laxo multifloro,

bracteis foliaceis latis cucullatis floribus longioribus, sepalo supremo rotundato lateralibus obtusis reflexis, labello lineari obtuso ascendente, calcare pendulo clavato compresso ovario duplò longiore.

Hab. in *Brazilia;* in radice montis Itacolumi ad Villa Rica, provincia Minarum, *Martius.* (*exam. s. sp. in hb. Mart.*)

Caulis strictus, foliosus, bipedalis, foliis haud plusquam 3-pollicaribus. "Sepala supremum supra albidum; lateralia reflexa viridia. Petala alba, obliquè lanceolata; lab. lineare viride. Calcar striatum, compressum." *Martius.* Bases antheræ longissimi ascendentes. Processus carnosi glandulosi, cuneati.

43. Habenaria floribunda.

H. ......, racemo laxo longissimo, bracteis membranaceis acuminatis obtusis ovario æqualibus, petalis dimidiato-oblongis truncatis antice carnosis, labello lineari acutiusculo, calcare pendulo ovarii longitudine.

Hab. in *Peruvia, Hænke.* (*exam. s. sp. in hb. Mart.*)

Racemus ultrapedalis, verosimiliter subspiralis. Flores cum ovario simul sumpti unciam longi. Antheræ bases longè soluti. Processus carnosi truncati glabri.

44. Habenaria quadrata.

H. foliis oblongo-lanceolatis acuminatis mollibus, racemo longissimo laxo, bracteis membranaceis acuminatis ovario æqualibus, petalis quadratis cuspidatis antice carnosis medio venosis, labello lineari sepalis lateralibus æquali, calcare pendulo filiformi compresso ovario longiore.

Hab. in *Brazilia;* in ripa fl. Madeira, provincia fl. Nigri, *Martius.* (*exam. s. sp. in hb. Mart.*)

"Radix fasciculata et bulbis 2 ovatis se propagans. Caulis sesquipedalis et altior acutè angulatus. Sepala virescentia, supremum hemisphærico-concavum galeatum erectum, lateralibus obliquè oblongis reflexis medio concavis. Petala albovirescentia. Labellum lineare, obtusum, flavovirens, deflexum." *Mart. MSS.*——*H. floribundæ* simillima, sed flores minores et petala formæ diversæ.

45. Habenaria hexaptera.

H. foliis ovato-lanceolatis, racemo longo laxo multifloro, bracteis ovario æqualibus, petalis lineari-oblongis obtusissimis, labello lineari acuto sepalis lateralibus acutis æquali, calcare falcato compresso ovarii longitudine, sepalo supremo subrotundo serrulato, ovario hexaptero alis crispis.

Hab. in *Brazilia;* provincia Minarum, *Martius.* (*exam. s. sp. in hb. Mart.*)

Caulis sesquipedalis et altior. Folia majora $2\frac{1}{2}$-poll. longa. Racemus semipedalis. Processus carnosi circa faucem calcaris ferrum equinum referentes cruribus acutis. Anthera subrotunda, basibus solutis processubus brevioribus.

46. Habenaria petalodes.

H. foliis oblongo-lanceolatis acutis, racemo longo laxo multifloro, bracteis foliaceis acuminatis ovario brevioribus, petalis cuneatis sepalo supremo rotundato cuspidato longioribus patentibus, labello lineari apice dilatato basi bidentato, calcare compresso clavato acuminato pendulo ovario longiore.

Hab. in *Brazilia;* in Sierra do Itacolumi provincia Minarum, *Martius.* (*exam. s. sp. in hb. Mart.*)

Caulis 2-3-pedalis, foliosus. Sepala lateralia reflexa, semioblonga, acuta. Anthera latissima; basibus solutis elongatis. Processus carnosi fungosi truncati, sejuncti.

47. Habenaria parvidens.

H. foliis ovato-lanceolatis acuminatis canaliculatis, racemo laxo multifloro, bracteis acuminatis foliaceis floribus æqualibus, sepalo dorsali ovato obtuso cum apiculo lateralibus reflexis acuminatis, petalis subfalcatis sepalorum longitudine, labello filiformi sepalorum longitudine basi utrinque laciniâ brevi lineari, calcare filiformi arcuato labello paulo longiore.

Hab. in *Peruvia,* Mathews, (1885.) (*hab. s. sp.*)

Caulis sesquipedalis. Bases antheræ parùm elongati; processus carnosi breves acinaciformes. Alabastri semunciam longi.

48. Habenaria? purpurea. *Thouars. Orch. Afr. t.* 17.

H. foliis angustis ensiformibus acutis radicalibus, caule squamato, racemo laxo paucifloro, bracteis brevibus concavis squamæformibus, labello cuneato cuspidato, calcare incurvo obtuso labello breviore.

Hab. in *Madagascaria,* Thouars.

Flores purpurei.———An *Peristyli* sp.

49. Habenaria linifolia. *Presl. Reliq. Hænk.* 1, 91.

H. " scapo paucifloro, foliis lineari-lanceolatis, sepalis integris, labello lineari-oblongo integerrimo basi angulato, bracteis ovario brevioribus."

Hab. in *Peruvia,* ad Huanoco, Hænke.

Scapus septempollicaris. Spica bipollicaris, laxa, vix 18-flora. Calcar ovarii longitudine.

b. Labellum trifidum, laciniis filiformibus indivisis.

50. Habenaria elongata. *R. Brown, Prodr. Fl. Nov. Holl.* 313.

H. foliis oblongis acutis sensim evanescentibus, racemo laxo multifloro, bracteis ovatis angustis acuminatissimis ovario quadruplò brevioribus, labello tripartito: laciniis filiformibus lateralibus divaricatis intermediâ duplò brevioribus, sepalo supremo retuso, calcare filiformi ascendente ovarii longitudine.

Hab. in *Nova Hollandia* tropica, *Brown.* (*hab. s. sp. comm. cel. R. Brown.*)

Caulis sesquipedalis. Sepala lateralia ovata, obtusa. Petala semiovata.

51. Habenaria reflexa. *Blume, Bijdr.*

H. " labello tripartito: laciniis linearibus, media elongata recurva, sepalis exterioribus lateralibus latioribus reflexis, calcare clavato arcuato ovario breviore."

Hab. in *Java;* in calcareis prope Kuripan, *Blume.*

52. Habenaria arenaria.

H. foliis binis radicalibus oblongo-ovatis acutis, scapo vaginato, racemo laxo multifloro, bracteis membranaceis acuminatis pedicellis ovariorum

longioribus, labelli tripartiti laciniis filiformibus lateralibus recurvis brevioribus, calcare pendulo filiformi ovario longiore.

Orchid. arenaria. *Burch. Hb.* 5654.

Hab. ad *Caput B. Spei, Burchell.* (*hab. s. sp. comm. cel. Burchell.*)

Caulis 1-1½-pedalis. Ovaria abruptè pedicellata. Sepala lateralia pendula.

53. Habenaria filicornis.

H. caule gracillimo bifolio, foliis strictissimis vaginantibus oblongo-linearibus obtusis, racemo laxo multifloro, bracteis subulatis pedicellorum longitudine, labelli tripartiti laciniis filiformibus obtusis intermediâ ascendente lateralibus deflexis duplò longiore, calcare filiformi compresso ovarii longitudine.

Orchis filicornis. *Thonning! in Schumach. Beskriv. af Guineisk. Plant.* 2, 171.

Hab. in *Guinea, Thonning.* (*exam. s. sp. in hb. Hornem.*)

Caulis 1-1½-pedalis. Foliorum lamina caule parallela obtusa. Flores minuti, ichneumonis facie. Petala falcata cum sepalo supr. refracto in galea agglutinata. Sepala lateralia majora retrorsum falcata. Anthera acuminata; basibus solutis brevibus erectis. Processus carnosi acuti decurvi.

54. Habenaria procera.

H. "labello tripartito: laciniis ascendentibus lateralibus linearibus divaricatis mediâ subulatâ porrectâ canaliculatâ, calcare lineari obtuso germine longiore, foliolis cal. lateralibus exterioribus deltoideis."

Orchis procera. *Swartz in Pers. Syn.* 1, 506.

Hab. in *Sierra Leone,* Afzelius.

55. Habenaria tridactylites.

H. foliis 2 radicalibus oblongo-lanceolatis petiolatis, racemo laxo paucifloro, bracteis membranaceis acuminatis ovario duplò brevioribus, labelli tripartiti laciniis filiformibus intermediâ paulò longioribus, calcare filiformi clavato pendulo ovarii longitudine.

Orchis tridactylites. *Webb et Berth. Fl. Can. ined.*

Hab. ad rupes, et in cæspitosis ins. *Canariensium* frequens, *Webb et Berthellot.* (*hab. s. sp. comm. cell. W. et B.*)

Caulis spithamæus v. minor, foliis radicalibus paulò altior. Sepalum supremum lato-ovatum acutum cum petalis angustis falcatis galeam planiusculum efformans. Sepala lateralia linearia obtusiuscula. Anthera lata, lobis parùm solutis divaricatis; processus carnosi oblongi distantes.

56. Habenaria graminea.

H. foliis radicalibus linearibus acuminatis scapo filiformi stricto multò brevioribus, racemo laxo paucifloro, bracteis squamiformibus acutis vix pedicello ovarii longioribus, labelli tripartiti sepalorum longitudine laciniis filiformibus subæqualibus, calcare compresso clavato ovarii longitudine.

Platanthera linifolia. *Lindl. in Wall. Cat. no.* 7041.

Hab. in montibus *Silhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 3-7 poll. altus, gracillimus, strictus. Folia $1\frac{1}{2}$-2 poll. longa. Flores parvi distantes. Sepalum suprem. c. pet. galeatum; lateralia deflexa, acuta. Anth. subrotunda, basibus solutis ascendentibus brevibus. Processus carnosi reniformes fauci calcaris adnati.

57. Habenaria viridiflora. *R. Br. Prodr. in annot.*

H. foliis radicalibus pluribus angustis acutis recurvis, racemo laxo multifloro, bracteis subulatis pedicellorum longitudine, petalis ovatis sepalis majoribus conformibus, labelli tripartiti sepalis paulò longioris horizontalis laciniis filiformibus intermediâ longiore, calcare filiformi pendulo ovarii longitudine.

Orchis viridiflora. *Swartz, Act. Holm.* 1800, *p.* 206. *Willd. Sp. Pl.* 4, 13.

Hab. in peninsula *Indiæ orientalis, Wight.* (*hab. s. sp. comm. cel. Wight.*)

Caulis 6-8 poll. altus basi tantum foliatus supernè squamosus. Bases antheræ distantes, porrecti, nec ascendentes. Processus carnosi lineares obtusiusculi.

58. Habenaria lucida. *Wall. MSS.*

H. foliis obovato-lanceolatis acutis planis, racemo elongato laxo multifloro, bracteis ovatis acutis ovario duplò brevioribus, labelli tripartiti laciniis lateralibus linearibus obtusis divaricatis ascendentibus sepalis longioribus intermediâ ovatâ setaceo-acuminatâ, calcare filiformi apice compresso ovario longiore.

Platanthera lucida. *Lindl. in Wall. Cat. no.* 7047.

Hab. in regno *Burmano;* Rangoon, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis sesquipedalis, apice distanter squamatus. Flores minores, distantes. Sepala lateralia reflexa, acuta, supremum erectum obtusum cum petalis galeatum. Processus carnosi parvi oblongi subreniformes.

59. Habenaria furcifera.

H. foliis oblongis planis acutis basi angustatis, racemo angusto elongato multifloro, bracteis membranaceis acuminatis ciliatis ovarii longitudine, labello trifido laciniis linearibus furcatis lateralibus intermedio breviori suppositis, petalis retusis galeâ brevioribus, calcare compresso ovario longiore apice involuto.

Hab. in *Mussooree, Royle.* (*hab. s. sp. comm. cel. Royle.*)

Sesquipedalis, facie *Aceratis anthropophoræ.* Folia radicalia 5 poll. longa. Axis racemi lævis. Sepala subæqualia, lateralia deflexa. Antheræ steriles maximæ orbiculatæ, bases rectos breves loculorum antheræ fertilis subrotundæ tegentes. Processus carnosi breves oblongi.

60. Habenaria stenopetala.

H. foliis obovato-lanceolatis acuminatis planis, racemo denso multifloro, bracteis membranaceis acuminatis ovario longioribus, labello lineari trifido laciniis acuminatis lateralibus nanis, petalis setaceo-linearibus a galeâ liberis, sepalis setaceo-acuminatis, calcare recto filiformi ovarii longitudine.

Hab. in *India septentrionali,* Cashmeram versus, *Royle.* (*hab. s. sp. comm. cel. Royle, et v. ic. pict.*)

Caulis foliosus, basi nudus, sesquipedalis vel altior. Flores albi, sepalis

apice virescentibus, labello flavescente. Tuberculum radicis magnum, oblongum, indivisum.

61. Habenaria Heyneana.

H. foliis angustis ovalibus acutis, racemo secundo paucifloro laxo, bracteis foliaceis cucullatis subventricosis acuminatis flore longioribus, labelli tripartiti laciniis subæqualibus sepalorum longitudine intermediâ angustè ovali lateralibus filiformibus incurvis, petalis sepalisq. subæqualibus conniventibus, calcare pendulo filiformi ovario breviore.

Platanthera Heyneana. *Lindl. in Wall. Cat. no.* 7044.

Hab. in peninsula *Indiæ orientalis, Heyne.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis vix spithamæus. Folia perfecta 2-3, suberecta, subitò in bracteis mutata. Sepalum supr. fornicatum, cætera ovata obtusiuscula. Anthera basibus distantibus parum solutis. Processus carnosi longissimi, cum basi labelli connati, linguæformes, divergentes.

62. Habenaria Rumphii.

H. foliis angustis canaliculatis acutis erectis, racemo oblongo denso multifloro, bracteis floribus longioribus squamisque caulis setaceo-acuminatis, labelli tripartiti laciniis filiformibus lateralibus brevissimis, calcare clavato labelli longitudine.

Platanthera Rumphii. *Ad. Brongn. Voy. de la Coquille, p.* 194, *t.* 38, *A.*
Orchis amboinica minor. *Rumph. Amb. p.* 118, *t.* 54, *f.* 2.

Hab. in *Amboyna,* Rumphius, D'Urville.

63. Habenaria Promensis. *Lindl. in Wall. Cat. no.* 7033.

H. foliis angustè oblongis acutis canaliculatis patentissimis in squamis acuminatissimis mutatis, racemo oblongo denso multifloro, bracteis acuminatissimis ovario longioribus, labelli tripartiti laciniis filiformibus subæqualibus sepalis longioribus, sepalo supremo petalisque falcatis fornicatis: lateralibus acutis patentibus, calcare pendulo clavato ovarii longitudine.

Hab. in montibus Promensibus *Indiæ orientalis, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis spithamæus. Folia majora 2-5 distantia. Anthera brevissima; basibus vix solutis. Processus carnosi lineares basi labelli adnati.

64. Habenaria marginata. *Colebr. in Hook. Exot. Fl. t.* 136.

H. foliis radicalibus planis approximatis patentissimis cordatis oblongis albomarginatis, racemo oblongo denso multifloro, bracteis acuminatis ovarii longitudine, labelli tripartiti penduli laciniis sepalis longioribus lateralibus linearibus acuminatis intermediâ lanceolatâ obtusâ breviore, sepalo supremo petalisque semiovatis fornicatis: lateralibus ovato-lanceolatis patentibus, calcare pendulo clavato apice ventricoso ovarii longitudine.

Hab. in *India orientali;* Bengalia, Kamaon, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Tubercula oblonga, indivisa; radices filiformes paucæ breves carnosæ. Caulis vix semipedalis squamis 2 acuminatis vaginatus. Folia obtusa aut acuta. Sepala viridia. Petala et labellum lutea. Bases antheræ distantes brevi spatio soluti. Processus carnosi falcati fimbriati.

65. HABENARIA latifolia.

H. foliis radicalibus pluribus aggregatis patentibus ovato-oblongis acutis, caule distanter vaginato, racemo laxo multifloro, bracteis membranaceis linearibus acuminatissimis ovario brevioribus, labelli laciniâ mediâ sepalis longiore lineari-oblongâ obtusâ lateralibus setaceis nanis ascendentibus, sepalo supremo petalisque falcatis fornicatis lateralibus duplò brevioribus, calcare filiformi pendulo sursùm compresso dilatato ovario longiore.

Hab. in *Zeylona, Macrae.* (*hab. s. sp.*)

Folia 6 poll. longa, 2½ lata. Scapus pedalis. Flores magni speciosi. Anthera basibus longis ascendentibus subulatis solutis. Processus carnosi lineares apice fimbriati.

66. HABENARIA ? præalta.

H. caule folioso, foliis ensiformibus canaliculatis strictis, racemo longissimo cylindraceo, bracteis cucullatis ovarii longitudine, labello tripartito laciniis linearibus æqualibus, calcare clavato ovarii longitudine.

Satyrium præaltum. *Thouars, Orch. Afr. t.* 11.

Hab. in *Borbonia,* Thouars,

Flores virescentes.

c. Labellum trifidum, laciniis lateralibus dilatatis v. fissis.

67. HABENARIA pectinata. *Don. Prodr. p.* 24.

H. foliis oblongo-lanceolatis acuminatis, racemo elongato multifloro, bracteis foliaceis acutis florum longitudine, labelli tripartiti ferè duplò sepalis longioris laciniis lateralibus basi simplicibus sursùm capillaceo-multifidis segmentis setaceis subsimplicibus intermediâ lineari acuminatâ, sepalis lateralibus deflexis supremo petalisque anticè repandis pubescentibus in galea agglutinatis, calcare pendulo filiformi apice clavato labello duplò longiore.

Orchis pectinata. *Smith, Exot. Bot. t.* 99.

Hab. in *India septentrionali* orientem versus; Napalia, et Kamaon, Hamilton, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 2-pedalis v. minor, foliis ad summum vestitus. Sepala 7 l. longa. Processus carnosi corniformes, pubescentes, reflexi, basibus solutis antheræ longiores. Galea pallidè viridis; sep. lat atroviridia; labellum album.

68. HABENARIA ensifolia.

H. foliis ensiformibus caulem vestientibus, racemo laxo brevi multifloro, bracteis foliaceis acuminatis florum longitudine, labelli tripartiti sepalis paulò longioris laciniis lateralibus capillaceo-multifidis segmentis filiformibus obtusis sæpiùs furcatis, intermediâ lineari-acuminatâ, sepalis petalisque lanceolatis liberis glabris secundis, calcare pendulo clavato labelli longitudine.

H. intermediæ pars. *Wall. Cat. no.* 7030.

Hab. in *Gossain Than, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 1-1½-pedalis, foliis erectis ad summum vestitus. Sepala 10 l. longa, acuta, omnia ascendentia. Petala sepalo supremo supposita, sed nullo modo agglutinata aut anticè repanda.

In the distribution of Dr. Wallich's Herbarium I confounded this with *H. intermedia*, from which the characters now assigned to that species abundantly distinguish it.

69. HABENARIA intermedia. *Don. Prodr. Nep.* 24.

H. caule 1-5-floro, foliis ovato-oblongis acuminatis distantibus patentibus, bracteis foliaceis planis patentibus ovario brevioribus, labelli tripartiti laciniis lateralibus ab ipsâ basi capillaceo-multifidis segmentis longissimis setaceis indivisis intermediâ lineari acuminatâ, sepalo supremo petalisque glabris anticè planis in galeâ agglutinatis lateralibus falcatis ascendentibus, calcare ascendente infracto filiformi labello vix longiore.

Hab. in *Napalia*, orientem versus, Hamilton, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis spithamæus ad pedalem, paucifoliatus. Sepala pollicaria. Petala sepalo supremo agglutinata, margine anteriore haud repando. Flores in *H. pectinata* magni, in *H. ensifolia* adhuc majores, in *H. intermedia* sunt maximi.

70. HABENARIA pubescens.

H. foliis pluribus radicalibus oblongis acutis planis, racemo elongato cylindraceo multifloro axi pubescente, bracteis acuminatis pubescentibus ovario longioribus, labelli tripartiti laciniâ intermediâ lineari carnosâ lateralibus longioribus apice dilatatis fissis, calcare arcuato compresso ovarii longitudine.

Hab. in *India septentrionali* ad Sabathoo, *Royle*. (*exam. s. sp. in hb. Royle.*)

Caulis sesquipedalis, robustus, pubescens. Folia sexpollicaria. Bases antheræ a canalibus stigmaticis liberi. Processus carnosi parvi tuberculiformes.

71. HABENARIA cephalotes.

H. foliis oblongis acuminatis canaliculatis, racemo oblongo denso multifloro, bracteis cucullatis acuminatis ovario longioribus, labelli trilobi pubescentis laciniâ intermediâ lineari acutâ lateralibus rotundatis multifido-ciliatis longiore, sepalo supremo petalisque conniventibus galeatis pubescentibus sepalis lateralibus intus tomentosis duplò minoribus, calcare pendulo apice clavato labello longiore.

Hab. in peninsula *Indiæ orientalis*, *Wight*. (*hab. s. sp. comm. cel. Wight.*)

Spithamæa. Folia inferiora 2½-pollicaria, sensim decrescentia. Anthera glabra, processubus carnosis rectis basibus loculorum solutis porrectis paulò longioribus. Petala obliquè triangularia, margine scabro. Sepalum supr. 3-costatum, intus glabrum, lat. 1-costata.

72. HABENARIA longicornis. *Lindl. in Wall. Cat. no.* 7027.

H. foliis lanceolatis canaliculatis recurvis, racemo laxo paucifloro, bracteis membranaceis acuminatissimis ovario arcuato brevioribus, labelli tripartiti laciniâ intermediâ lineari lateralibus falcatis crenatis obtusis breviore, sepalis lateralibus triangularibus supremo erecto a petalis horizontalibus incurvis libero, calcare clavato compresso ovario longiore.

Hab. in *India orientali*, *Heyne*. (*hab. s. sp. e Mus. Angl. Ind.*)

Vix 5 poll. altus. Folia radicalia 5, subitò in squamis acuminatissimis

mutata. Sepala patula, nulla reflexa. Calcar $1\frac{1}{2}$ p. longum. Bases soluti antheræ elongati. Processus carnosi recurvi.

73. Habenaria ochroleuca. *R. Brown, Prodr.* 313.

H. foliis brevissimis appressis ovato-lanceolatis acutis, racemo raro pauci-floro, bracteis acuminatis ovario duplò brevioribus, labelli trifidi laciniâ intermediâ compressâ filiformi lateralibus lanceolatis divaricatis paulò brevioribus, sepalo supremo petalisque duplò minoribus subquadratis: lateralibus patentibus majoribus cum laciniis labelli lateralibus parallelis, calcare pendulo apice clavato ovarium subæquante.

Hab. in *Nova Hollandia* tropica, *R. Brown.* (*hab. s. sp. comm. cel. R. Br.*)

Caulis tenuis, 10 poll. altus, foliis tam parvis ut potius squamatum quam foliatum diceres. Flores parvi. Bases soluti antheræ breves porrecti; processus carnosi lineares divergentes basi labelli accreti.

B. Rostratæ.

74. Habenaria plantaginea.

H. foliis radicalibus oblongis aut obl.-lanceolatis acutis obtusisve, spicâ laxâ secundâ, bracteis membranaceis acutis ovario duplò brevioribus, labelli trifidi subrotundi laciniâ intermediâ lineari acutâ lateralibus latissimis denticulatis subæquali, sepalis subæqualibus ascendentibus, calcare arcuato filiformi pendulo ovario rostrato longiore.

Orchis platyphyllos. *Roxb. Fl. Ind.* 3, 451.
Gymnadenia plantaginea. *Lindl. in Wall. Cat. no.* 7053.

Hab. in peninsula *Indiæ orientalis:* in angustiis inter Tenevelly et Travancore, *Wallich*; Monghir, *Hamilton.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis aphyllus squamis acutis vaginatus, spithamæus ad pedalem. Sepala ovata acuta, labello triplò minora. Processus carnosi oblongi, paralleli, agglutinati. Ovarium brevius rostratum quam in priore.

75. Habenaria platyphylla. *Spreng. Syst.* 3, .

H. foliis radicalibus orbiculatis acutis horizontalibus, spicâ densâ multiflorâ, bracteis setaceo-acuminatis ovario duplò brevioribus, labelli tridentati laciniâ intermediâ lineari acutâ lateralibus denticulatis nanis, sepalis æqualibus, calcare longissimo filiformi apice incrassato.

Orchis plantaginea. *Roxb. Corom.* 1, *p.* 32, *t.* 37. *Flora Indica*, 3, 450.
Orchis platyphyllos. *Willd. Sp. Pl.* 4, 10.
Orchis Roxburghi. *Pers. Syn.* 2, 503.

Hab. in peninsula *Indiæ orientalis*; montibus Circar, Roxburgh; dumetis et sylvestribus montium Vendalore, *Wight, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 1-$1\frac{1}{2}$-pedalis squamis acuminatissimis vestitus. Flores albi, fragrantes. Sepala ovata, lateralia reflexa. Petala linearia. Ovarium rostratum. Antheræ bases soluti porrecti.

76. Habenaria crinifera.

H. foliis radicalibus oblongo-lanceolatis, spicâ densâ multiflorâ, bracteis acuminatis ovario triplò brevioribus, labello unguiculato basi appendiculato quadripartito laciniis acuminatissimis sepalis 4-plò longioribus, sepalo supremo petalisq. galeatis, calcare ascendente clavato compresso labelli longitudine.

Hab. in *Zeylona*; in umbrosis ad ripas fluviorum intra sylvas, *Macrae*, florens Septembri. (*hab. s. sp. et ic. pict.*)

Caulis sesquipedalis. Flores majusculi, sepalis pallidè viridibus, labello albo. Sepalum supremum in labellum pronum lineis tribus purpureis in dorso. Laciniæ labelli nunc denticulatæ nunc integerrimæ. Bases antheræ longissimi soluti. Appendix e fauce calcaris cochleariformis, brevis.

77. Habenaria trichosantha. *Wall. Cat. no.* 7028.

H. foliis ovato-oblongis acuminatis subamplexicaulibus, spicâ brevi densâ, bracteis ciliatis acuminatis ovarii longitudine, labelli tripartiti laciniis lateralibus capillaceo-multifidis intermediâ lineari-lanceolatâ, sepalis lateralibus reflexis supremo erecto a petalis libero, calcare compresso ovario longiore.

Hab. in regno *Burmano*, in monte Taong Dong, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 1-1½-pedalis, parcè foliatus. Folia 2½ poll. longa.

78. Habenaria geniculata. *Don. Prodr. Fl. Nep.* 25.

H. foliis oblongo-lanceolatis planis, spicâ cylindraceâ multiflorâ, bracteis setaceo-acuminatis ovarii longitudine, labelli subrotundi trilobi lobis lateralibus dentatis planis intermedio lineari acuto, petalis sepalo supremo galeato duplò brevioribus, calcare basi infundibulari sursùm cylindraceo clavato obtuso.

Platanthera geniculata. *Lindl. in Wall. Cat. no.* 7042.

Hab. in *Napalia*, et *regno Burmano*: Gossain Than, montibus Prome et Taong Dong, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Planta statura et facie *O. masculæ*. Bases soluti antheræ ascendentes. Processus carnosi lineares, longissimi, porrecti. Sepala lateralia supremo duplò majora. Ovarium brevè rostratum.

79. Habenaria longifolia. *Hamilt. MSS.*

H. foliis angustis acuminatis canaliculatis erectis, spicâ laxâ multiflorâ, bracteis foliaceis acuminatis ovario longioribus, labello subrotundo plano trilobo: lobis lateralibus semioblongis integris intermedio lineari acuto, sepalo supremo cum petalis æquilongis in galea agglutinatis, calcare filiformi ovario longiore.

Gymnadenia longifolia. *Lindl. in Wall. Cat. no.* 7060.

Hab. in *India septentrionali*; Nathpur, *Hamilton*, Mussooree et portu Kheree, *Royle*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis sesquipedalis foliosus. Flores albi. Labellum sepalis 3-plò majus, magis minusve divisum. Rostellum liberum, subulatum, compressum, antheræ ferè æquale, loculis subparallelis. Calcar viride. Ovarium sessile apice angustatum, vix rostratum. Capsulam haud vidi. Processus carnosi apice dilatati uncinati.

80. Habenaria stenopetala.

H. foliis oblongo-lanceolatis acuminatis patentibus, vaginis caulis laxis acuminatissimis, spicâ pauciflorâ subcorymbosâ, bracteis acuminatissimis floribus longioribus, labello basi appendiculato lineari-oblongo carnoso trilobo: lobis acuminatis lateralibus nanis intermedio sepalorum longi-

tudine, petalis setaceo linearibus, calcare filiformi obtuso ovarii longitudine.

Hab. in *Zeylona*, in umbrosis, florens Decembri, *Macrae*. (*hab. s. sp. et ic. pict.*)

Spithamæa, basi tantum foliata. Flores nivei. Sepalum supremum convexum, non galeatum, lateralibus subæquale. Calcar basi infundibulare. Appendix labelli parvus, convexus, pubescens. Bases antheræ longissimi porrecti. Processus carnosi parvi, ori calcaris adnati.

81. HABENARIA commelinifolia. *Wall. MSS.*

H. foliis oblongo-lanceolatis planis, spicâ laxâ multiflorâ, bracteis foliaceis acuminatis ciliatis ovario longè rostrato subæqualibus, labello trifido laciniis lateralibus setaceis divaricatis intermediâ lineari acuminatâ longiore, petalis oblongis et sepalo supremo cucullato galeatis lateralibus reflexis triangularibus rotundatis, calcare filiformi clavato ovario duplò longiore.

Orchis commelinifolia. *Roxb. Fl. Ind.* 3, 451.
Platanthera commelinifolia. *Lindl. in Wall. Cat. no.* 7037.

Hab. in peninsula *Indiæ orientalis*; Bengalia, Roxburgh, regno Burmano, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Caulis sesquipedalis. Vaginæ supremæ setaceo-acuminatæ. Flores albi, inodori. Bases soluti antheræ longissimi. Labelli lobus medius valdè convexus.

82. HABENARIA rostrata. *Wall. MSS.*

H. foliis oblongo-lanceolatis radicalibus, spicâ oblongâ densâ, bracteis acuminatissimis ciliatis ovarii longitudine, labello tripartito sepalis duplò longiore laciniis filiformibus acuminatis, sepalo supremo galeato lateralibus latis apice falcatis, calcare clavato ovario breviore.

Platanthera rostrata. *Lindl. in Wall. Cat. no.* 7051.

Hab. in regno *Burmano*, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Pedalis. Spica crassa, multiflora. Bases antheræ recurvi. Processus carnosi breves oblongi.

83. HABENARIA linguella.

H. foliis oblongo-lanceolatis erectis, squamis supremis setaceo-acuminatis, spicâ subrotundâ multiflorâ, bracteis acuminatissimis ciliatis ovario arcuato rostrato æqualibus v. brevioribus, labelli tripartiti laciniis filiformibus intermediâ deflexâ lateralibus brevissimis, sepalo supremo petalisque ovatis convexis liberis galeam efficientibus: lateralibus pendulis contiguis, calcare filiformi compresso-clavato ovario longiore.

Hab. in *China*, Dom. *Millett*; *Zeylona*, *Macrae*. (*hab. s. sp. et v. in hb. Hooker.*)

Caulis pedalis et ultra. Spica facie *H. rostratæ* a qua vix differt nisi labello. Flores aurei ex *Macrae*.

84. HABENARIA acuifera. *Wall. MSS.*

H. foliis omnibus radicalibus angustè lanceolatis erectis, squamis caulis setaceo-acuminatis, spicâ subrotundâ densâ, bracteis acuminatis ovario brevioribus, labello lineari tripartito: laciniis lateralibus subulatis nanis,

sepalo supremo plano : lateralibus duplò majoribus, calcare cylindraceo apice obtuso inflexo ovario brevius.

Platanthera acuifera. *Lindl. in Wall. Cat. no.* 7045.

Hab. in regno *Burmano;* Tavoy, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Spithamæa. Spica brevis. Bases antheræ liberi elongati. Processus carnosi parvi, os calcaris ambientes. Anth. steriles ovatæ, elongatæ. Sepala lateralia labelli longitudine.

85. Habenaria densa. *Wall. MSS.*

H. caule folioso, foliis oblongis acuminatis, spicâ longissimâ cylindraceâ densâ, bracteis acuminatis ovarii longitudine, labello lineari obtuso indiviso, petalis sepalisque conformibus ovatis acutis conniventibus, calcare clavato ventricoso ovario breviore.

Platanthera densa. *Lindl. in Wall. Cat. no.* 7046.

Hab. in *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 2-pedalis et ultra. Folia 5 poll. longa. Spica ferè sesquipedalis. Flores parvi. Capsulæ ovatæ, brevirostratæ, hexagonæ, angulis tribus costatis. Processus carnosi oblongi obtusi divergentes.

Species facie propriâ. Perianthium campanulatum cum *Habenaria* malè quadrat; sed notam nullam inveni ad genus novum conficiendum idoneam.

Species dubia ; fortè diversi generis.

Habenaria Sigillum. *Thouars. Orch. Afr. t.* 20.

Hab. in *Borbonia,* Thouars.

Folia in medio tantum caulis bipedalis, oblonga, acuminata, nervosa. Racemus laxus multiflorus. Bracteæ brevissimæ, squamiformes. Flores albi. Sepala ovata, patula, subæqualia. Petala posticè emarginata, sepalis paulò minora. Labellum 5-fidum : laciniis linearibus basilaribus nanis, intermediis latioribus subfalcatis, intermediâ e latâ basi projiciente. Calcar filiforme, ovarii longitudine. Ad ic. *Thouarsii.*

CLXXXVIII. ATE.

Perianthium Orchidis. Anthera basibus divergentibus attenuatis canalibus stigmaticis adnatis. Glandulæ nudæ. Processus carnosi liberi, laminâ corneâ, spatulatâ, deflexâ, canaliculatâ interpositâ. Antheræ steriles a lata basi angustatæ, fertilis ferè longitudine, apice incrassatæ.—Herba radice tuberculosâ, caule folioso, floribus herbaceis galeatis.

This very distinct genus differs from *Habenaria* in having a curious, horny, channelled, recurved tooth, arising from the anterior edge of the orifice of the spur, and curved down upon the lip : its use is unknown to me. On account of its situation it cannot be considered analogous to the little appendage we find at the base of the lip of *H. crinifera* and *stenopetala ;* whatever it may be, it is an organ so very highly developed, that, considering the great length of the sterile stamens, and the peculiar habit of this plant, I think we must admit it as a good generic character.

1. Ate virens.

Habenaria barbata. *Wight in Wall. Cat. no.* 7034.

Hab. in peninsula *Indiæ orientalis* prope Dindigul, in montibus alt. 4000 ped. *Wight.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Pedalis. Folia ovata, acuminata, omnem caulem occupantia, subitò in bracteis mutata. Racemus secundus, laxus, 4-6-florus, bracteis foliaceis ovario longioribus. Flores virides, galeati. Sepala 8 l. longa, ovata, acuminata, glabra, lateralia reflexa; supremum cum petalis galeam formans. Petala pubescentia sepalo duplò latiora, bifida, laciniis acuminatis anteriore breviore. Labellum pendulum, pubescens, trifidum, sepalis longius, lobis linearibus acuminatis æqualibus. Calcar filiforme, ovarii longitudine, obtusum.

CLXXXIX. BONATEA.

Bonatea. *Willd. Sp. Pl.* 4, 43. *Lindl. Illustr. of Orchideous Plants by Bauer,* Genera, *tt.* 12, 13.

Perianthium et Anthera *Habenariæ.* Stigma labio superiore (rostello) libero, elongato, cucullato v. complicato. Processus carnosi 2, stigmatici, nunc longissimi, nunc abbreviati.——Habitus Orchidis.

Obs. Bonatea est Habenaria stigmate evolutissimo.

a. *Petala bipartita.*

1. Bonatea speciosa. *Willd. Sp. Pl.* 4, 43. *Bot. Mag. t.* 2926.

B. caule folioso, foliis oblongis subundulatis laxè vaginantibus, racemo multifloro compacto, bracteis membranaceis cucullatis acuminatis ovarii longitudine, floribus galeatis, petalis bipartitis lineari-lanceolatis galeæ longitudine, laciniis anterioribus labello adnatis, labello tripartito laciniis linearibus acuminatis convexis undulatis apice revolutis, rostello ciliato, processubus carnosis spatulatis canaliculatis obtusis sepalorum longitudine, calcare filiformi pendulo labello æquali.

Orchis speciosa. *Linn. Suppl. Syst. Nat. p.* 401. *Thunb. Fl. Cap.* 1, 27.

Hab. prope rivulos plures ad *Caput B. Spei, Thunberg.* (*v. v. c. et hab. s. sp. comm. cel. Burchell.*)

2. Bonatea cirrhata.

B. caule folioso, foliis oblongo-lanceolatis subundulatis planis, racemo paucifloro, bracteis foliaceis acuminatis ovarii longè pedunculati longitudine, floribus galeatis, petalis bipartitis: laciniis setaceis liberis posteriore brevi anteriore longissimâ flexuosâ, labello tripartito laciniis capillaceis lateralibus brevioribus, rostello subulato glabro antherâ breviore, processubus carnosis capitatis galeæ longitudine, calcare longissimo compresso convoluto.

Hab. in *Madagascaria, Lyall.* (*exam. s. sp. in hb. Hooker.*)

Caulis sesquipedalis. Sepala lateralia triangularia, 9 l. longa. Petala cirrhata $2\frac{1}{2}$ poll. longa.

3. Bonatea incarnata.

B. caule folioso, foliis ensiformibus canaliculatis erectis, racemo denso

cylindraceo, bracteis membranaceis acuminatis ovario longioribus, sepalis omnibus reflexis supremo duplò minore, petalis bipartitis: laciniâ posteriore membranaceâ subulatâ reflexâ anteriore carnosâ lineari-lanceolatâ antrorsùm arcuatâ, labello tripartito laciniis linearibus acutis sepalorum lateralium longitudine, rostello subulato anthera breviore, processubus carnosis capitatis antherâ brevioribus, calcare falcato ovario longè pedunculato æquali.

Habenaria incarnata. *Lyall, MSS.*

Hab. in *Madagascaria, Lyall.* (*exam s. sp. in hb. Hooker.*)

Caulis bipedalis. Folia 6-8 poll. longa. Racemus semipedalis. Flores inter minores. Petala duo cornua bovina simulant. Antheræ steriles sunt emarginatæ.

4. Bonatea Bilabrella.

B. caule gracili basi folioso, foliis lineari-lanceolatis abruptè in vaginis laxis acuminatis transeuntibus, racemo laxo oblongo multifloro, bracteis membranaceis acuminatis pedicellis vix æqualibus, sepalis reflexis supremo lineari-lanceolato canaliculato lateralibus dimidiato-oblongis apice valdè obliquis, petalis carnosis pubescentibus bipartitis: laciniis anterioribus ovatis obtusis posticis erectis recurvis linearibus duplò longioribus cum sepalo quasi labium superius formantibus, labello tripartito laciniis lateralibus angustissimè lanceolatis intermediâ filiformi brevioribus, rostello cornuto antheræ longitudine, processubus carnosis capitatis antherâ longioribus, calcare falcato basi infundibulari.

Bilabrella falcicornis. *Bot. Reg.* 1701.
Orchidea falcicornis. *Burch. Cat. Geogr. no.* 5178.

Hab. ad *Caput Bonæ Spei, Burchell.* (*exam. s. sp. in herb. Burchell.*)

5. Bonatea pratensis.

B. caule basi tantum folioso, foliis angustis ensiformibus erectis, racemo subcorymboso paucifloro, bracteis acuminatis ovario triplò brevioribus, floribus galeatis, petalis bipartitis: laciniis anterioribus linearibus falcatis quam posteriores lanceolatæ falcatæ brevioribus, labello tripartito sepalis lateralibus æquali: laciniis æquilongis lateralibus linearibus subfalcatis obtusis intermediâ lineari-lanceolatâ, rostello obtuso cucullato anthera longiore, processubus carnosis crassis truncatis nanis, calcare recto clavato ovarii longitudine.

Orchis pratensis. *Salzmann.*

Hab. in *Brazilia;* Bahia, *Salzmann, Don;* Rio Belmonte, ad rivulum prope Francoso, *Princeps Neovidensis.* (*hab. s. sp.*)

Subpedalis. Folia 3-4 poll. longa. Flores verosimiliter lutescentes.

6. Bonatea flexuosa.

B. caule valdè flexuoso, foliis coriaceis lanceolatis acuminatis canaliculatis, racemo laxo paucifloro, bracteis foliaceis cucullatis ovario longipedunculato longioribus, floribus galeatis, petalis carnosis bipartitis: laciniis anterioribus linearibus reflexis, labello carnoso tripartito: laciniis convexis linearibus obtusis intermediâ longiore ascendente, rostello truncato antherâ longiore, processubus carnosis planis rotundatis inflexis, calcare pendulo recto clavato bractearum longitudine.

Hab. in *Brazilia,* provinciâ Minarum, *Martius.* (*exam. s. sp. in hb. Mart.*)

Planta facie omnino Iridaceæ cujusdam spathaceæ. Caulis 1½-2-pedalis. Sepala lateralia reflexa 6 l. longa. Glandulæ antheræ maximæ luteæ.

7. Bonatea pauciflora.

B. caule folioso 1-2-floro, foliis oblongo-lanceolatis acutis canaliculatis, bracteis foliaceis cucullatis pedunculis brevioribus, floribus galeatis longipedunculatis, petalis carnosis bipartitis: laciniis lateralibus brevioribus reflexis linearibus acutis, labello carnoso 3-partito sepalis breviore: laciniis deflexis linearibus acutis subæqualibus, rostello complicato acuto recurvo antherâ longiore, processubus carnosis crassis nanis truncatis, calcare clavato pedunculi longitudine.

Orchis longicornu. *Salzmann.*

Hab. in *Brazilia*; Bahia, *Salzmann.* (*hab. s. sp.*)

Caulis palmaris ad 1½-pedalem, gracilis. Calcar 3-pollicare. Pedunculi arcuati, longissimi. Antheræ steriles magnæ lineares apice crenatæ.

b. *Petala indivisa.*

8. Bonatea foliosa.

B. caule densè folioso, foliis brevibus oblongis acutis erectis in bracteis sensim decrescentibus, racemo denso multifloro, bracteis foliaceis cucullatis succulentis ovario duplò brevioribus, floribus galeatis, petalis oblongis obtusis sepalis duplò majoribus, labello lineari obtuso basi bidentato, rostello complicato ovarii longitudine, processubus carnosis brevibus obovatis canaliculatis, calcare recto pendulo clavato apice ventricoso ovario breviore.

Orchis foliosa. *Swartz, Act. Holm.* 1800, *p.* 206. *Willd. Sp. Pl.* 4, 11.

Hab. ad *Caput B. Spei,* Swartz, *Burchell.* (*hab. s. sp. comm. cel. Burchell.*)

Caulis vix pedalis foliis brevibus basi laxè vaginantibus imbricatis densè tectus. Labellum 7 l. longum, sepalis lat. deflexis æquale.

9. Bonatea gracilis.

B. caule gracili subbifloro basi tantum folioso, foliis oblongis acutis, floribus longipedunculatis galeatis, bracteis vaginantibus pedunculis brevioribus, labello obovato tripartito laciniis indivisis intermedia lineari lateralibus dilatatis falcatis breviore, rostello complicato crenulato antheræ longitudine, processubus carnosis teretibus obtusis petalorum longitudine, calcare longissimo apice clavato compresso.

Hab. in *Indiæ orientalis* peninsula, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia 3 poll. longa. Caulis pedalis. Sepalum supremum ovatum obtusum a petalis conformibus angustioribus liberum; lateralia majora reflexa falcata. Labellum unciam longum. Bases antheræ flexuosæ cornutæ. Calcar 5 poll. longum.

10. Bonatea micrantha.

B. foliis oblongis succulentis, caule gracili supernè aphyllo distanter squamato, racemo laxo elongato multifloro, bracteis linearibus acutis pedunculis longioribus, floribus galeatis longè pedunculatis, labello tripartito sepalis æquali carnoso: laciniis linearibus acutis subæqualibus, rostello subulato, processubus carnosis reniformibus, calcare compresso recto apice uncinato.

Hab. ad *Caput B. Spei.* (*hab. s. sp. comm. cel. Hooker.*)

Subpedalis, gracilis. Flores minimi generis. Racemi 2½-6 poll. longi. Rostello subulato et processubus parvis transitum efficit inter *Bonateam* et *Habenariam*.

CXC. DIPLOMERIS.

Diplomeris. *Don. Prodr. Nep.* 26.——Diplochilus. *Lindl. in Bot. Reg.* 1499.—— Paragnathis. *Spreng. Syst.* 3, 694.

Perianthium campanulatam calcaratum; sepalis quam petala et labellum indivisum minoribus. Anthera horizontalis basibus loculorum elongatis liberis distantibus. Glandulæ nudæ. Stigma labio superiore (rostello) maximo membranaceo dilatato plano; processubus duobus carnosis collateralibus porrectis nunc cohærentibus labium inferius simulantibus.———Herbæ humiles paucifoliæ, caulibus nudis v. unisquamatis, bracteis cucullatis subsolitariis. Radices tuberculiferæ.

A *Bonatea* differt stigmate bilabiato et perianthio campanulato; *Habenaria* rostello maximo perianthioque.

1. Diplomeris pulchella. *Don. l. c.*

D. caule 2-3-phyllo subbifloro, foliis ensiformibus glabris, calcare recto.

Paragnathis pulchella. *Spreng. l. c.*
Diplochilos longifolium. *Lindl. in Wall. Cat. no.* 7064. *Bot. Reg.* 1499.

Hab. in montibus *Silhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Caulis 4-5 poll. altus, squamâ solitariâ canaliculatâ acutâ in medio. Bracteæ ovatæ, cucullatæ, acutæ. Flores nivei. Sepala 7 l. longa, ovato-lanceolata acuta. Petala longiora, duplò majora, ovato-oblonga. Labellum obcordatum, mucrone interjecto, planum. Calcar 1½ poll. longum rectum compressum. Anthera horizontalis, v. ferè resupinata. Stigmatis labium superius obovatum, planum, integrum, membranaceum, ultra antheram longè prominens; inferius e processubus duobus carnosis collateralibus ascendentibus sejunctis constans.

2. Diplomeris hirsuta.

D. caule monophyllo unifloro, folio oblongo hirsuto, calcare incurvo.

Diplochilos hirsutum. *Lindl. in Wall. Cat. no.* 7065. *Bot. Reg.* 1499.

Hab. in *Gossain Than, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Tota planta vix 3 poll. alta. Caulis erectus nudus. Bractea magna, cucullata, ciliata. Petala 8 l. longa. Labellum obcordatum mucrone nullo interjecto. Rostellum emarginatum. Processus carnosi paralleli, ascendentes, plani, canalium stigmaticorum longitudine, in labium inferius cohærentes.

CXCI. CYNORCHIS.

Cynosorchis. *Thouars, Orch. Afr.*——Gymnadeniæ sp. *Ach. Richard, Orch. Maur.*

Sepala æqualia conniventia. Petala sub sepalo superiore agglutinata. Labellum columna connatum, calcaratum, sæpiùs 4-partitum, sepalis

multò majus, et texturæ diversissimæ. Columna nana. Anthera horizontalis v. resupinata, loculis distantibus elongatis. Rostellum planum, dilatatum, tripartitum. Pollinia glandulis nudis. Stigma lobis duobus carnosis rostelli lobis lateralibus suppositis.———Herbæ, Africæ australis et insularum Mascarensium; radicibus testiculatis. Flores nunquam herbacei. Caules sæpiùs squama vaginante in medio.

The lip connate with the column, the great dilated trifid rostellum, the horizontal or resupinate anther, are the principal characters of this genus. The lip, moreover, is usually 4-lobed; but *C. squamosa* is an exception.

1. CYNORCHIS uniflora.

C. foliis binis ensiformibus acuminatis erectis caulis uniflori longitudine, bracteâ vaginante cuspidatâ pedunculi longitudine, sepalis obtusissimis, labelli 4-lobi lobis oblongis rotundato-truncatis lateralibus majoribus, calcare clavato ovarii longitudine.

Hab. in *Madagascar, Lyall.* (*v. s. sp in herb. Hooker.*)

Radicis tuberculum oblongum lanatum. Caulis spithamæus et parum ultra. Labellum ferè $1\frac{1}{2}$ p. longum, calcari æquale.

2. CYNORCHIS purpurascens. *Thouars, t.* 15.

C. foliis radicalibus erectis longis lanceolatis acuminatis, caule medio unisquamato, floribus nunc corymbosis nunc racemosis, bracteis acuminulatis, labelli 4-lobi lobis subæqualibus rotundato-truncatis, calcare filiformi ovarii longitudine.

Gymnadenia purpurascens. *Ach. Rich. Orch. Maur.* 29, *t.* 6, *f.* 1.
Orchis purpurascens. *Spreng. Syst.* 3, 687.

Hab. in *Mauritio* et *Borbonia*, Thouars, *Madagascaria, Lyall.* (*ex. s. sp. in herb. Hooker.*)

Tubercula radicis oblonga, lanata. Caulis $1\text{-}1\frac{1}{2}$-pedalis. Folia 8-9 poll. longa. Flores purpurascentes. Labellum 1 poll. longum. Rostellum membranaceo-dilatatum altè 3-fidum, lobis lateralibus subulatis, intermedio lato lineari truncato. Icon Richardi omnino erronea est.

3. CYNORCHIS Boryana.

C. caule monophyllo squamâ unicâ acuminatâ laxè vaginante in medio, folio ovato-lanceolato acuminato, labelli trilobi lobis truncatis æqualibus, calcare inflato brevissimo incurvo.

Gymnadenia Boryana. *Ach. Rich. Orch. Maur.* 28, *t.* 5.

Hab. in *Mauritio*, monte *du Pouce* dicto, Bory.

Tubercula radicis ovalia. Caulis 8-10 poll. Bracteæ breves, acuminatæ. Flores purpurascentes distantes, labello verticali, 8 lineas longi. Rostellum ex icone Richardi bilobum, maximum, lobis parallelis truncatis; an rectè visum? Ovarium pilis quibusdam glandulosis conspersum.

4. CYNORCHIS flexuosa.

C. folio solitario oblongo 5-sulcato, caule flexuoso medio vaginato, spicâ laxâ flexuosâ, bracteis acuminatis, labelli trilobi lobo medio cuneato emarginato lateralibus abbreviatis truncatis, calcare filiformi labelli longitudine.

Hab. in *Madagascar, Lyall.* (*ex. s. sp. in herb. Hooker.*)

Radicis tubercula subrotunda. Caulis spithamæus, valdè flexuosus. Labellum 8 lin. longum. Rostellum maximum, trifidum, lobis acuminatis intermedio majore. Petala linearia subfalcata.

5. Cynorchis fastigiata.

C. foliis binis radicalibus oblongo-lanceolatis acuminatis horizontalibus, caule unisquamato, racemo corymboso, labello quadrifido: laciniis æqualibus truncatis, calcare longissimo filiformi.

Cynosorchis fastigiata. *Thouars, t.* 13.
Orchis mauritiana. *Sieber, Fl. Maurit. no.* 169, *non Lamarckii.*
Gymnadenia fastigiata. *Ach. Rich. Orch. Maur.* 25.
Orchis fastigiata. *Spreng. Syst.* 3, 687.

Hab. in locis humidis insulæ *Mauritii,* Thouars, *Sieber, Bojer.* (*hab. s. sp. comm. cel. Prescott.*)

Rostelli lobi æquales, acuti, paralleli. Flores lutei.

This was referred to *O. mauritiana* by Reichenbach in the distribution of Sieber's plants. Whatever that plant may be, it certainly is not this.

6. Cynorchis triphylla.

C. foliis 2-3 radicalibus lineari-lanceolatis 3-costatis horizontalibus, caule unisquamato paucifloro corymboso, labello quadrifido: laciniis æqualibus truncatis, calcare longissimo filiformi.

Cynosorchis triphylla. *Thouars, t.* 14.
Gymnadenia triphylla. *Ach. Rich. Orch. Maur.* 26.
Orchis triphylla. *Spreng. Syst.* 3, 687.

Hab. in insula *Mauritii,* Thouars.

An mera varietas C. fastigiatæ?

7. Cynorchis squamosa.

C. foliis 1-2 radicalibus oblongo-lanceolatis acutis, caule squamis paucis acutis vaginato, racemo brevi oblongo, labello postico cuneato truncato basi bidentato, calcare gracili tereti labelli longitudine.

Orchis squamosa. *Poir. Enc. Meth.* 4, 601. *Willd.* 3, 42.
? Amphorchis calcarata. *Thouars, Orch. t.* 4.
Gymnadenia squamata. *Ach. Rich. Orch. Maur. p.* 24, *t.* 6, *f.* 2.
Habenaria Amphorchis. *Spreng. Syst.* 3, 689.

Hab. in insula *Mauritio* et *Borbonia,* Thouars, Commerson. (*v. s. sp. in herb. Lehm.*)

Caulis 6-8 poll. altus, gracilis. Flores purpurascentes, inter minimos generis. Rostelli laciniæ verosimiliter lineares, obtusæ, æquales.

An hujus generis?

Orchis mauritiana. *Lam. Encycl.* 4, 562. *Willd. Sp. Pl.* 3, 42.

Hab. in *Mauritio,* Poiret.

"Caulis flexuosus. Folia erecta, lanceolata, acuta, multinervata. Flores solitarii, pedunculati, pedunculis longitudine internodiorum alternis. Bracteæ brevissimæ, obtusæ, basi vaginatæ. Petala superiora erecta lanceolata, acuta; bina lateralia linearia expansa. Cornu longissimum, filiforme, bis flexuosum. Germen longum, erectum, cornu multò brevius."

I have seen no specimen which answers even tolerably to this description. Sprengel refers it as a synonym to *Cynorchis triphylla*, and Reichenbach to *C. fastigiata*; with both of which its characters are totally at variance.

CXCII. TRYPHIA.

Tryphia. *Lindl. in Bot. Reg.* 1701.

Sepala conniventia, æqualia, herbacea. Petala linearia, membranacea, sepalis longiora, faciei baseos labelli adnata eoque similia. Labellum membranaceum, altè partitum cum columna connatum. Anthera erecta, nana; lobis divergentibus. Rostellum ovatum, planum. Glandulæ polliniorum nudæ.———Herba, Africæ australis, foliis membranaceis radicalibus, floribus secundis. Radices testiculatæ.

1. Tryphia secunda.

Orchis secunda. *Thunb. Prodr. Capens.* 4. *Flora Capensis*, 31.

Hab. ad *Caput B. Spei*, Thunberg, prope sinum Algoa, *Forbes*. (*hab. s. sp. e Mus. Hort. Soc.*)

Tubercula radicis sphærica; radiculæ lanatæ. Folia radicalia bina, ovalia, acuta. Caulis palmaris, nudus. Racemi secundi, 2 p. longi. Petala linearia, obtusa. Labellum laciniis lateralibus petalis æqualibus et conformibus, intermediâ cuneatâ tridentatâ. Calcar breve obconicum apice uncinatum.

CXCIII. ARNOTTIA.

Arnottia. *Ach. Rich. Orch. Maur. p.* 33.

Flores resupinati. Sepala inæqualia, lateralibus majoribus alæformibus patulis, impari minore erecto. Petala angustiora ascendentia. Labellum posticum, ecalcaratum petalis basi coalitum et conforme. Anthera resupinata loculis subparallelis basi divergentibus, glandulis nudis. ———Herba terrestris radice tuberculiferâ, caule monophyllo, floribus spicatis. *Char. ex. Ach. Rich.*

1. Arnottia mauritiana. *Ach. Rich. l. c. t.* 7, *f.* 1.

? Amphorchis inermis. *Thouars, Orch. Afr. t.* 5.

Hab. in *Borbonia*, Commerson, Thouars.

Folium radicale ovali-oblongum, 2-3 poll. long. 1 poll. lat. Caulis spithamæus. Spica densa, globosa; flores purpurascentes.

Probably the *Amphorchis inermis* of Thouars is a different species from this. As the other *Amphorchis* appears to be a *Cynorchis*, it is as well to suppress the former name altogether, in favour of M. Achille Richard's *Arnottia*.

CXCIV. BARTHOLINA.

Bartholina. *R. Br. H. Kew.* 5, 194.

Perianthium ringens. Calyx basi tubulosus, secundus, laciniis æqualibus.

Petala sepalis parallela, falcata, infernè labello subconnata. Labellum calcaratum, explanatum, patens, 3-lobum: lobo medio multifido lateralibus trilobis: laciniis omnibus filiformibus. Anthera erecta, elongata, lobis parallelis cucullatis: cuculli distincti, basibus valvularum inflexis absconditi. Pollinia parva, caudiculis longissimis canaliculatis, glandulis intra cucullos inclusis.——Herba pusilla, uniflora, unifolia, hirsuta, radicibus tuberculiformibus.

1. Bartholina pectinata. *R. Brown, l. c.*

Bartholina Burmanniana. *Ker in Brande's Journal*, 4, 204, *t.* 5, *fig.* 2.
Orchis pectinata. *Willd. Sp. Pl.* 4, 11. *Thunb. Fl. Cap.* 28.
Orchis Burmanniana. *Linn. Sp. Pl.* 1334. *Swartz in Web. et Mohr Archiv.* 1, 55, *t.* 3.
Arethusa ciliaris. *Linn. Suppl.* 405.

Hab. ad *Caput Bonæ Spei*, prope urbem etc. in montium lateribus, Thunberg. (*v. v. c.*)

Folium reniforme, lobulis baseos imbricatis, pilosum ut omnes partes virides. Caulis vix palmaris, erectus, fuscus, teres, uniflorus. Bractea unica, ovata, cucullata, ovarium tegens. Calyx basi tubulosus, viridis, laciniis secundis, erectis, parallelis, lanceolato-linearibus. Petala falcata, acuminata, alba, violaceo colore tincta, supra antheram curva, basi cum labello levissimè connata, glabra. Labellum unciam latum, medio viride, basi calcare brevi conico pubescente cavo præditum, laminâ explanatâ, circumscriptione orbiculari, trilobum; laciniis lateralibus trilobis, intermediâ multifidâ, omnibus violaceis filiformibus. Anthera erecta, loculis elongatis, basi contiguis: suturis ob torsionem valvularum basi approximatis; cucullis distinctis, sub basibus valvularum exteriorum antheræ absconditis. Pollinia parva, aurantiaca; caudiculis longissimis fulvis linearibus canaliculatis; glandulis parvis in cucullis suis latentibus.——Obs. foramen, v. areola transparens muco repleta in cucullo utroque adest sub glandulis. Stigma areola madida, oblonga, ad basin columnæ, ubi calcar ab ovario separatur.

CXCV. BICORNELLA.

Bicornella. *Lindl. in Bot. Reg.* 1701.

Sepala inæqualia; lateralia majora, labello extus obliquè adnata. Petala sepalo supremo in galeam convexam agglutinata. Labellum calcaratum, indivisum, angustum, canaliculatum, columnæ nanæ adnatum. Anthera ferè horizontalis, lobis ascendentibus, basi elongatis, lobis lateralibus rostelli adnatis, extus appendice linguæformi (stamine sterili) auctis. Rostelli lobus medius ovatus, planus, abbreviatus. Pollinia minima; retinaculo longo lineari basi antheræ elongatâ tecto.——Herbæ (Mascarenenses) caule folioso v. subfolioso. Flores parvi, spicati.

1. Bicornella gracilis.

B. caule squamis acuminatis vaginato, foliis brevibus ensiformibus, petalis sepalo æqualibus, ovario scabro, antheræ lobis labello semiliberis: appendicibus spatulatis obtusis.

Hab. in *Madagascar*, *Lyall*. (*hab. s. sp. comm. cel. Hooker.*)

Flores majores quam in sequente, et minus approximati. Statura et

facies eædem. Folia caulina nulla nisi vaginæ foliantes. Rostelli lobus medius nanus, laterales elongati apice dolabriformes, à labello liberi. Appendices antheræ lineares loborum rostelli longitudine. Calcar apice incrassatum. Labellum lineari-lanceolatum, vix undulatum.

2. BICORNELLA longifolia.

B. caule folioso foliis lineari-ensiformibus erectis vix longiore, petalis sepalo minoribus, ovario glabro, antheræ lobis labello connatis: appendicibus ovatis obtusis.

Hab. in *Madagascar*, Herb. Lehmann. (*exam. s. sp. in Hb. Lehm.*)

Orchide laxiflora haud absimilis sed flores parvi et magis approximati. Caulis $1\frac{1}{2}$-pedalis. Folia graminea sensim in bracteas acuminatas evanescentibus. Rostelli lobus medius ovatus lateralibus æqualis, iisque connatus. Appendices antheræ breves, carnosi, oblongi. Calcar filiforme. Labellum lineari-lanceolatum, acuminatum, crispum.

CXCVI. SATYRIUM.

Satyrium. *Swartz Act. Holm.* 1800, *p.* 214. *R. Brown in Hort. Kew. ed.* 2. 5. 196. Diplecthrum. *Richard in Pers. syn.* 2. 508.

Perianthium ringens, labio inferiore e sepalis petalisque confecto, superiore e labello galeato bicalcarato aut bisaccato. Columna sessilis aut elongata. Anthera resupinata; loculis parallelis aut divergentibus. Glandulæ polliniorum nudæ discretæ. Stigma bilabiatum; labio superiore maximo inferius superante.——Herbæ Africæ Australis, insularum Mascarensium Indiæque temperatæ, habitu omninò Orchidis. Radices testiculatæ.

Fabrica columnæ, ulteriùs quoad specierum differentias investigandæ, verosimiliter characteres stabiliores ad species quasdam distinguendas præbebit. Sectiones nostræ faciles equidem, sed merè artificiales, præsertim duæ priores.

§ 1. Longicalcarata; *nempè calcaribus ovario æqualibus v. longioribus.*
§ 2. Brevicalcarata; *nempè calcaribus ovario omninò brevioribus.*
§ 3. Saccata; *nempè labello basi bisaccato, nec calcarato; saccis nunc elongatis sed rectis obtusissimis nec acuminatis.*

§ 1 a. *Longicalcarata*; bracteis sub anthesi erectis aut patulis.

1. SATYRIUM membranaceum. *Swartz in Act. Holm.* 1800, *p.* 216.

S. foliis radicalibus magnis orbiculatis cordatis, vaginis caulis imbricatis membranaceis cucullatis, spicâ subdensâ, bracteis oblongis ovatisque membranaceis concavis floribus brevioribus demùm reflexis, sepalis lateralibus lineari-oblongis triveniis intermedio angustiore infra medium trivenio, petalis linearibus undulatis basi 5-veniis margine laceris, labello galeato apice serrato calcaribus longissimis.

Hab. in *Prom. B. Spei; Burchell no.* $\frac{6738}{2}$; ad sinum Algoa, *Forbes*, in Zuurebergen, *Drège*. (*hab. s. sp.*)

Caulis palmaris ad bipedalem, vaginis membranaceis conspicuus.

2. SATYRIUM longicolle.

S. foliis binis radicalibus ovato-subrotundis obtusis planis, vaginis caulis membranaceis acutis imbricatis, spicâ elongatâ conicâ bracteis ovalibus

membranaceis erectis floribus brevioribus, laciniis perianthii altè connatis, sepalis lineari-oblongis petalisque linearibus brevioribus carinatis, labello oblongo carinato apice dilatato crenulato obtuso, calcaribus longissimis reflexis, ovario elongato lineari.

Hab. ad *Prom. B. Spei*, in Albany, pr. Botram, *Drège*. (*hab. s. sp.*)

Caulis sesquipedalis, vaginis bracteisque acutis arctè appressis omninò membranaceis.

3. Satyrium carneum. *Brown in Hort. Kew. ed.* 2. 5. 196. *Bot. Mag. t.* 1512.

S. foliis radicalibus binis orbiculatis carnosis, vaginis caulis coriaceis foliaceis cucullatis acutis, spicâ densâ ovato-oblongâ, bracteis maximis patulis concavis acutis ciliatis floribus longioribus, sepalis obtusis lateralibus ovato-oblongis leviter carinatis intermedio lineari, petalis obovatis acuminatis obtusis inæquilateris, labello galeato apiculo obtuso reflexo, calcaribus deflexis ovario omninò æqualibus.

Orchis carnea. *Hort. Kew. ed.* 1.

Hab. in *Prom. B. Spei*, in sabulo alto puro, arbustis obumbrato, *Herschell*; in collibus arenosis circa Groenevalei, *Drège*; (*hab. s. sp. et v. v. c. comm. illustr. Herschell.*)

Flores maximi generis, albi carneo suffusi. Bracteæ roseo-marginatæ. Stigmatis labium inferius ovatum acuminatum decurvum, superius lineare obtusum inferiore duplò longius.

4. Satyrium parviflorum. *Swartz Act. Holm.* 1800, *p.* 216.

S. foliis inferioribus ovato-lanceolatis caulinis inflatis acuminatis, spicâ cylindraceâ, bracteis oblongo-lanceolatis obtusis cucullatis erectis, sepalis lateralibus ovato-lanceolatis patentibus intermediâ petalisque lineari-lanceolatis apice canaliculatis æqualibus, labello galeato acumine reflexo, calcaribus subulatis ovario paulò longioribus.

Orchis bicornis. *Jacq. hort. Schönbr.* 2. 26 *t.* 179.
Diplecthrum parviflorum. *Pers. syn.* 2. 509.

Hab. ad. *Prom. B. Spei*, *Ecklon*; ad Mord-Kuil, pr. Breederivier, *Drège*. (*hab. s. sp.*)

5. Satyrium stenopetalum.

S. foliis . . . . , vaginis caulis oblongis concavis erectis, spicâ laxâ multiflorâ, bracteis erectis oblongis acutis concavis floribus brevioribus, sepalis lateralibus linearibus basi angustatis membranaceis apice obtusis concavis carnosis intermedio lineari patente, petalis linearibus carnosis revolutis apice canaliculatis, labello convexo ovato acuminato apice reflexo marginibus carnosis, calcaribus longissimis.

Hab. ad *Prom. B. Spei*, *Burchell*, no. 6856, 6880. (*hab. s. sp. comm. cel. inventor.*)

S. *parvifloro* proximum, staturâ humiliore, calcaribus longissimis, necnon sepalis angustioribus diversum.

6. Satyrium foliosum. *Swartz in Act. Holm.* 1800, *p.* 216. *Thunb. Fl. Cap. ed. Schultes, p.* 18.

S. foliis oblongo-lanceolatis erectis cucullatis imbricatis caulis ferè longitudine, spicâ densâ obtusâ imbricatâ, bracteis ovalibus erectis imbricatis floribus longioribus, sepalis lateralibus lineari-oblongis patentibus inter-

medio lineari decurvo, petalis linearibus obtusis suberectis, galeâ hemisphæricâ apiculatâ calcaribus filiformibus pendulis ovario longioribus.

β, *helonioides* (Burchell hb. no. 4379.) bracteis paulò brevioribus, et sepalis petalisque magis obtusis.

Hab. in *Prom. B. Spei*, Thunberg, *Ecklon, Burchell;* inter Vanstaadesrivier et Gamtoosrivier, *Drège.* (*hab s. sp.*)

Flores parvi, (erecti, pallidè purpurascentes, *Thunb.*) Caulis 1-1½ pedalis, foliosus, nec squamis vaginatus.

7. Satyrium sphærocarpum.

S. foliis ovato-oblongis erectis acutis sensim in vaginis caulis foliaceis mutatis, spicâ elongatâ multiflorâ, bracteis oblongis acutis patulis florum longitudine, sepalis labello longè adnatis lateralibus oblongis intermedio lineari; petalis linearibus suprà minutè pubescentibus, labello galeato apiculato calcaribus subulatis ovario subrotundo æqualibus.

Hab. ad *Prom. B. Spei*, prope sinum Delagoa, *Forbes.* (*hab. s. sp. comm. hort. soc. Lond.*)

Planta facie et staturâ *S. foliosi*, quo differt floribus majoribus, sepalis lateralibus labello longè connatis, calcaribus brevibus, fructu subrotundo.

8. Satyrium amœnum. *Ach. Rich. Orch. Maurit.* p. 31.

S. foliis radicalibus binis oblongis acutis caulinis squamæformibus distantibus acutis vaginantibus, spicâ oblongâ, bracteis ovato-lanceolatis acutis floribus longioribus deflexis, sepalis ovalibus acutis patentibus, petalis conformibus minoribus, labello galeato convexo emarginato calcaribus crassis cylindraceis ovario longioribus.

Diplectrum amœnum. *Thouars Orch. Afr. t.* 21. 22.

Hab. in insulâ *Borbonia*, Thouars.

Caulis pedalis. Folia 4 poll. longa. Flores magnitudinis mediocris, purpurei. *Thouars.*

§ 1. b. *Longicalcarata*; bracteis sub anthesi reflexis.

9. Satyrium maculatum. *Burchell herb.* 6854.

S. foliis binis radicalibus suborbiculatis membranaceis planis, vaginis caulis membranaceis cucullatis acutis, spicâ laxâ bracteis membranaceis ovato-lanceolatis retrofractis, sepalis petalisque angustioribus linearibus obtusis glabris, labello oblongo convexo apice rotundato dilatato, calcaribus a basi latâ sensim filiformibus ovario elongato longioribus.

Hab. ad. *Prom. B. Spei, Burchell;* ad Driefontein pr. Gauritzrivier, et in Zuurebergen, *Drège.* (*hab. s. sp. comm. cel. inventor.*)

Habitu *S. membranaceo* accedit, sed petalis integris, bracteis cauli retrorsùm appressis, ovariisque elongatis diversissimum est.

10. Satyrium longicauda.

S. foliis lanceolatis acuminatis vaginantibus cauli appressis, spicâ oblongâ densâ multiflorâ bracteis membranaceis ciliatis ovato-lanceolatis acuminatis reflexis floribus longioribus, sepalis linearibus patentibus carinatis, petalis linearibus erectis ciliatis carinatis apice recurvis pubescentibus, labello ovato convexo apice dilatato crispo tomentoso, calcaribus filiformibus longissimis.

Hab. ad *Prom. B. Spei*, inter Zandplaat et Komga, *Drège*. (*exam. s. sp. in herb. Dreg.*)

S. stenopetalo affine, bracteis longis patulis ciliatis reflexis floribusque diversum. In utrâque specie folia radicalia absunt; an semper?

11. Satyrium macrophyllum.

S. foliis erectis oblongo-lanceolatis supremis angustatis imbricatis caulem arctè vaginantibus, spicâ oblongâ angustâ bracteis lineari-lanceolatis acutissimis reflexis floribus longioribus, perianthio infundibulari, sepalis petalisque linearibus patulis cum labello fornicato dorso carinato ultra medium connatis, calcaribus ovario aptero longioribus.

Hab. ad *Prom. B. Spei*, inter Omsamwubo et Omsamcaba, *Drège*. (*exam. s. sp. in herb. Dreg.*)

Species bipedalis et ultra, foliis 9-10 poll. longis, membranaceis, circiter 7-nerviis.

12. Satyrium rostratum.

S. foliis ovato-laceolatis erectis caulem prope basin vaginantibus, vaginis caulis appressis obtusis, spicâ laxâ oblongâ bracteis ovatis acuminatis ciliato-scabris reflexis, sepalo intermedio petalisque linearibus ascendentibus lateralibus oblongis dimidiatis deflexis, labello fornicato rostrato lævi cum sepalis altè connato, calcaribus longissimis.

Hab. in *Madagascaria*, *Lyall*. (*exam. s. sp. in hb. Hooker.*)

S. macrophyllo proximum, characteribus indicatis satis diversum.

13. Satyrium gracile.

S. foliis radicalibus binis ovalibus acutis patentibus, caule gracili vaginis appressis acuminatis distantibus, spicâ gracili bracteis lineari-lanceolatis acuminatis reflexis, sepalis linearibus basi angustatis, petalis ascendentibus angustioribus, labello acuminato apice crispulo intus pubescente, calcaribus filiformibus arcuatis ovario multò longioribus.

Hab. in *Madagascaria*, *Lyall*. (*hab. s. sp. comm. cel. Hooker.*)

Caulis pedalis vel sesquipedalis, pennæ corvinæ crassitudine. Flores parvi. Sepala lateralia minutissimè ciliata.

14. Satyrium lupulinum.

S. caule folioso, foliis radicalibus oblongis planis erectis superioribus angustioribus acutis patulis basi tantùm vaginantibus, spicâ elongatâ multiflorâ densâ bracteis ovatis acuminatis herbaceis reflexis floribus longioribus foliatâ, sepalis revolutis obtusis intermedio longiore, petalis erectis labello approximatis semirhomboideis apice reflexis crispis, labello galeato oblongo apice reflexo crispo marginato, calcaribus filiformibus pendulis ovario longioribus.

Hab. ad *Prom. B. Spei*, ad sinum Algoa, *Forbes*, in Tafelberg, *Drège*. (*hab. s. sp.*)

Species distinctissima, facie specierum sect. 3 pertinentium sed multò major. Caulis pedalis ad sesquipedalem, foliosus, nec squamatus, bracteis verosimiliter herbaceis densis reflexis. Fabrica petalorum insignis; in exemplaribus quibusdam glabrescunt, in aliis pube minutâ vestiuntur.

15. Satyrium cucullatum. *Thunb. Fl. Cap. ed. Schultes* 17. *Bot. Reg. t.* 416.

S. foliis binis orbiculatis ciliato-scabris, vaginis caulis utriculatis inflatis distantibus furfuraceo-ciliatis, bracteis oblongis obtusis concavis reflexis, sepalo intermedio lineari obtuso petalis conformibus apice plano-convexis carnosis longiore: lateralibus majoribus omnibus basi altè connatis, labello acuto carnoso ecristato apice recto, calcaribus pendulis ovario longioribus.

Orchis bicornis. *Linn. Sp. pl.* 1330, *Bot. Repos. t.* 315.
Satyrium bicorne. *Thunb. prodr. p.* 6.

Hab. ad. *Prom. B. Spei*; in collibus prope Cape-town alibique in locis vere inundatis, Thunberg; in Paarlberg, *Drège*; cum Satyrio candido, *Herschel.* (*hab. s. sp. et v. v. c. comm. cel. Herschel.*)

Flores virides, odore ingrato. Stigmatis labium posticum lineare erectum emarginatum apice denticulatum antico plano porrecto tridentato longius.

In a dried state this is extremely like S. candidum; but it may be distinguished by the ciliated ovate leaves, without having recourse to the form of the stigma.

16. Satyrium candidum. *Lindl. in Bot. Reg.* 1838, *misc. no.* 153.

S. foliis binis subrotundo-ovatis glabris, vaginis caulis utriculatis inflatis distantibus margine pellucidis lævibus, bracteis oblongo-lanceolatis acutis reflexis, sepalis linearibus obtusis patentibus, petalis conformibus minoribus ascendentibus apice recurvis, labello inflato obtuso apice reflexo dorso carinato calcaribus pendulis ovario longioribus.

Hab. ad *Prom. B. Spei*; prope Gnadenthal et Riebekscasteel, *Drège*; in sabuletis apricis, *Herschel.* (*hab. s. sp. et v. v. c. comm. cel. Herschel.*)

Flores albi, aromatici, gratissimi, quam S. cucullati majores. Stigmatis labium posticum rotundatum, antico ovato plano bilobo paulò longius, basi bituberculatum. Antheræ lobi divaricati. Planta interdum sesquipedalis.

17. Satyrium acuminatum.

S. foliis binis ovatis cordatis acuminatis undulatis planis, vaginis caulis 3 distantibus apice foliaceis acuminatis undulatis recurvis, spicâ tenui bracteis ovatis acuminatis reflexis florum longitudine, sepalis petalisque ovalibus obtusis membranaceis venis 3 intermediâ evanescente, labello apice obtuso carnoso crispo, calcaribus pendulis ovario longioribus.

Hab. ad *Prom. B. Spei*; supra Katberg, *Drège.* (*hab. s. sp.*)

Facies *S. cucullati*, sed flores verosimiliter candidi v. flavi, et folia vaginæque acuminata. Labellum etiam sepala et petala texturâ formâque differunt.

18. Satyrium humile.

S. foliis radicalibus ovato-oblongis, vaginis caulis duabus cucullatis acutis distantibus, spicâ laxâ (6-florâ) bracteis angustis ovato-oblongis acutis deflexis florum longitudine, sepalis cum labello altè connatis lateralibus oblongis intermedio lineari apice concavo, petalis ascendentibus linearibus obtusis apice recurvis, labello basi angustato apice recurvo carnoso obtuso, calcaribus filiformibus ovario longioribus.

Hab. ad *Prom. B. Spei*, in montibus circa Dutoitskloof, *Drège.* (*hab. s. sp.*)

This looks like a starved state of *S. cucullatum*, but the form and texture of the flowers are different. The stem is about 6 inches high.

19. SATYRIUM densiflorum.

S. foliis radicalibus oblongis erectis caulinis brevioribus patentibus basi vaginantibus, spicâ ovatâ elongatâ densissimâ bracteis lineari-lanceolatis acutissimis reflexis floribus longioribus, sepalis lateralibus oblongis obtusis recurvis intermedio multò minore lineari apice concavo obtuso, petalis minoribus erectis cuneatis retusis, labello carnoso apice rotundato crenato reflexo dorso costato, calcaribus filiformibus pendulis ovarii longitudine.

Hab. ad *Prom. B. Spei*, prope Baksteinvalei, *Ecklon.* (*hab. s. sp. comm. cel. Drège.*)

20. SATYRIUM nepalense. *Don Prodr. Fl. Nep.* 26.

S. foliis radicalibus oblongo-lanceolatis acutis, vaginis caulis distantibus inflatis acuminatis, spicâ laxâ multiflorâ bracteis ovatis acuminatis reflexis florum longitudine, sepalis lateralibus oblongis intermedio petalisque linearibus glabris, labello galeato apiculato dorso cristato calcaribus filiformibus ovario longioribus.

Hab. in *India orientali*; Napalia, Sirmore, Kamaon, Sylhet, *Wallich*; Zeylona, in monte Nuera Ellia, *Macrae.* (*hab. s. sp.*)

Caulis pedalis et ultra. Flores rosei. Radices testiculatæ. Labelli latera margine dilatata unde quasi trilobum evadit.

§ 2. a. *Brevicalcarata*; bracteis sub anthesi erectis aut patulis.

21. SATYRIUM Wightianum.

S. foliis oblongis coriaceis acutis radicali plano caulinis 1-2 angustioribus vaginantibus, spicâ oblongâ densâ bracteis ovalibus reflexis florum longitudine, sepalis lateralibus oblongis intermedio lineari obtuso petalis linearibus breviore omnibus glabriusculis, labello galeato apiculato acuto ecristato calcaribus filiformibus ovario multò brevioribus.

Hab. in *Indiâ orientali, Wight.* (*hab. s. sp. comm. cel. inventor.*)

Caulis spithamæus, in exemplare nostro folio uno plano radicali, proximo patulo complicato, tertio erecto vaginante, quarto squamaceo cauli appresso. Florum siccatorum superficies minutè papillosa a margine ciliato *S. ciliati* diversa est.

22. SATYRIUM erectum. *Thunb. Fl. Cap. ed. Schultes, p.* 16.

S. foliis oblongis obtusis coriaceis margine cartilagineis scabris patentibus sensim in vaginis coriaceis convolutis imbricatis mutatis, spicâ multiflorâ bracteis oblongis concavis reflexis floribus longioribus, sepalis oblongis petalisque linearibus acutis labello oblongo galeato ferè longioribus, calcaribus filiformibus ovario brevioribus.

Hab. ad *Prom. B. Spei*, ubi vocatur " Geele Trewa" Thunb.; ad sinum Algoa, *Forbes*; Klein Drakensteen, *Drège.* (*hab. s. sp.*)

Caulis 1½—2-pedalis, robustus, totus vaginis coriaceis foliaceis tectus. Flores aurei ex Harvey in hb. Hooker; flavo-aurantiaci s. pallidi secund. Thunberg.

In many respects this is nearly the same as *S. coriifolium*; it is however abundantly different in the characters above noticed, in addition to which it is a much taller plant, remarkable for its very large bracts.

23. Satyrium papillosum. *Lindl. in Bauer's Illustr. t.* 14. fructification.

S. foliis binis radicalibus cordato-orbiculatis planis papillosis, vaginis caulis appressis apice acutis foliaceis patentibus complicatis, spicâ oblongâ obtusâ multiflorâ, sepalis linearibus convexis recurvis obtusis petalisque conformibus minoribus patulis, labello oblongo acuto margine revoluto dorso cristato apice subcrispo recurvo: omnibus altè connatis, calcaribus ovario pauld̀ brevioribus.

Hab. ad *Prom. B. Spei,* in collibus arenosis ad Saldanhabay, et supra Camiesbergen; necnon prope Donkerhoek, et Liefde, *Drège;* in argillaceis sole induratis, nec in sabuletis, *Herschel.* (*hab. s. sp.; et v. c. comm. illustr. Herschel.*)

Caulis spithamæus, pedalis et sesquipedalis, crassus; folia papillis elevatis micant. Flores carnei, sanguineo aut purpureo guttati, suaves, anthoxanthi odorati fragrantiam simulantes.

§ 2 b. *Brevicalcarata;* bracteis sub anthesi primâ reflexis.

24. Satyrium cassideum.

S. foliis binis radicalibus ovato-subrotundis planis membranaceis, vaginis caulis foliaceis canaliculatis patentibus acuminatis, spicâ laxiusculâ multiflorâ, bracteis ovato-lanceolatis acuminatis reflexis floribus brevioribus, sepalis concavis obtusis lateralibus oblongis intermedio lineari, petalis minoribus obovatis erectis: omnibus labello carnoso galeato rotundato margine revoluto multò brevioribus, calcaribus rigidis recurvis ovario duplò brevioribus.

Hab. ad *Prom. B. Spei, Burchell,* no. 3854; prope Paarl et in Outniqualand, *Drège.* (*hab. s. sp.*)

Caulis gracilis, pedalis ad sesquipedalem. Flores facie *S. cucullati,* labello salvo margine carnoso sepalis petalisque membranaceis.

25. Satyrium coriifolium. *Swartz in Act. Holm.* 1800, *p.* 216. *Bot. Mag. t.* 2172. *Bot. Reg. t.* 703.

S. foliis oblongo-lanceolatis acutis coriaceis margine scabriusculis patentibus, vaginis caulis 2-3 coriaceis acutis distantibus, spicâ pauciflorâ bracteis ovatis submembranaceis acutis reflexis florum longitudine, sepalis petalisque linearibus obtusis glabris labello maximo transverso orbiculari brevioribus, calcaribus cylindraceis obtusis ovario brevioribus intùs barbatis.

S. cucullatum. *Loddiges Bot. Cab. t.* 104, nec Swartz.

Hab. ad *Prom. B. Spei, Forbes, Burchell,* no. 6067; ad Paarlberg, *Drège.* (*hab. s. sp.*)

This is usually cited as a synonym of *S. erectum* Thunb., but it will be seen by comparing their characters that they are essentially distinct from each other.

Flores vitellini.

26. Satyrium ciliatum.

S. foliis ovato-lanceolatis erectis in caulem ascendentibus, spicâ ovali im-

bricatâ bracteis ovato-lanceolatis demùm reflexis floribus duplò longioribus, sepalis linearibus obtusis petalisque angustioribus ciliatis, labello galeato apice membranaceo obtuso dorso carinato calcaribus conicis petalis parùm longioribus.

Hab. in *Nepalia, Wallich.* (*hab. s. sp. e mus. Angl. Ind.*)

Planta spithamæa *Orchidis latifoliæ* facie. Flores duplò majores quam in *S. nepalensi.* Stigmatis labium inferius (labello proximum) cuneatum erosum, superius trilobum : lobo medio dilatato emarginato rotundato lateralibus abbreviatis.

A very distinct species, mixed with *S. nepalense* in the distribution of Dr. Wallich's specimens. It is readily known by its very long leafy bracts and very short spurs.

27. Satyrium ligulatum.

S. foliis radicalibus pluribus oblongo-lanceolatis (undulatis?) erectis supremis vaginæformibus, spicâ angustâ multiflorâ bracteis ovato-lanceolatis acuminatis reflexis floribus paulò longioribus, sepalis petalisque ascendentibus in acumen longum lineare obtusum membranaceum angustatis, labello galeato carnoso apice membranaceo ligulæformi, calcaribus decurvis acuminatis ovario brevioribus.

Hab. ad *Prom. B. Spei,* prope Nieuwekloof, *Drège.* (*hab. s. sp.*)

Caulis bipedalis, vaginis caulis haud imbricantibus.

28. Satyrium militare.

S. foliis radicalibus pluribus ovalibus carnosis erectis, vaginis caulis 2-3 apice foliaceis patulis, spicâ longâ densâ cylindraceâ bracteis ovato-lanceolatis reflexis floribus longioribus, sepalis lateralibus oblongis intermedio petalisque linearibus obtusis basi cum labello altè connatis deflexis, labello obtuso dorso venâ alatâ cristato, calcaribus acutis deflexis ovario brevioribus.

Hab. ad *Prom. B. Spei,* inter Gekau et Basche, *Drège.* (*hab. s. sp.*)

Orchidis fuscæ habitus, staturâ bipedali et majore. Folia sicca coriacea, superficie planâ nec foveolatâ.

29. Satyrium eriostomum.

S. foliis oblongis erectis canaliculatis acutis caulem vaginantibus, spicâ elongatâ laxâ bracteis ovato-lanceolatis angustis reflexis floribus longioribus, sepalis lateralibus semi-orbiculatis glabris petalisque linearibus tomentosis labello carnoso inflato ecristato apice reflexo tomentoso undulato multò minoribus, calcaribus carnosis deflexis ovario paulò longioribus.

Hab. ad *Prom. B. Spei,* in Katberg, *Drège.* (*exam. s. sp. in herb. Dreg.*)

Sesquipedalis, foliosa, Satyrii cucullati facie. Flores carnosi, labelli ore contracto tomentoso, superficie minutè scabrâ.

§ 3. a. *Saccata ;* bracteis patulis.

30. Satyrium bracteatum. *Thunb. Prodr. cap. 6, Fl. Cap. ed. Schultes, p.* 18.

S. foliis ovatis amplexicaulibus 3-nerviis caulem rectum pubescentem vestientibus, spicâ densâ multiflorâ, bracteis subrotundo-ovatis acuminatissimis patulis, sepalis lateralibus carnosis oblongis concavis patentis-

simis intermedio pendulo membranaceo lineari-ovato obtuso petalisque angustè triangularibus acutissimis membranaceis univeniis, labello galeato latiore quam longo extus avenio pubescente, columnâ sessili.

Ophrys bracteata. *Linn. Suppl.* 403.

Hab. ad *Prom. B. Spei,* Thunberg, *Burchell no.* 650; in montibus prope Dutoitskloof, *Drège.* (*hab. s. sp.*)

Spicâ elongatâ, bracteis patentibus horizontalibus, caule pubescente et labelli formâ ab omnibus valdè diversum. Folia radicalia multinervia videntur.

31. Satyrium retusum.

S. foliis inferioribus ovato-oblongis cordatis superioribus ovatis caulem amplectantibus, spicâ densâ elongatâ, bracteis ovatis concavis erecto-patentibus acutiusculis, sepalis lateralibus erectis oblongis obtusis labelli longitudine, petalis linearibus multò minoribus, labello ventricoso apice depresso retuso infra apicem apiculato, calcaribus duobus retrorsis cylindraceis ovario multò brevioribus.

α, bracteis floribus æqualibus.

β, bracteis floribus multò longioribus, et spicâ crassiore.

Hab. ad *Prom. B. Spei*; a *Mundt* in hb. Hooker; β, ad Ruigtevalei, *Drège.* (*hab. s. sp.*)

This agrees pretty well with the specific character of *S. striatum* in Thunberg's Flora Capensis, but it does not at all correspond with the detailed description of the flowers. It is a good deal like S. bracteatum at first sight, but very different when carefully examined.

32. Satyrium bicallosum. *Thunb. Prodr.* 6. *Swartz Act. Holm.* 1800. *p.* 216. *Thunb. Fl. Cap. p.* 19. *ed. Schultes.*

S. foliis ovatis amplexicaulibus obtusis nervosis caulis longitudine, spicâ densâ bracteis ovatis setaceo-acuminatis patentibus erectisque floribus multò longioribus, sepalis lateralibus oblongis petalis acutis mucronulatis sepaloque intermedio pluries longioribus, labello ventricoso acuto apice depresso inflexo glabro basi bisaccato.

Hab. ad *Prom. B. Spei;* in monte Paardeberg, Thunberg, ad Klein Draakensteen, et prope Liefde, *Drège.* (*hab. s. sp.*)

This plant does not in all respects answer to the description given by Thunberg; it is especially difficult to reconcile with it the expression "galea excisa." Nevertheless I can find nothing else among the many Cape Orchidaceæ in my possession which at all agrees with it; and the galea may have been incorrectly observed.

§ 3. b. *Saccata;* bracteis reflexis.

33. Satyrium lineatum.

S. foliis ovatis amplexicaulibus nervosis caulem flexuosum sæpiùs glabrum vestientibus, spicâ densâ elongatâ bracteis ovatis acuminatis reflexis, sepalis petalisque secundis linearibus obtusissimis univeniis lateralibus majoribus falcatis, galeâ ovatâ acutâ glandulosâ carinatâ basi bisaccatâ margine pubescente venis tribus elevatis scabris aliisque immersis abbreviatis striatâ, stigmate villoso.

S. bracteatum. *Ker in Brande's Journal*, viii. 221. *t.* 3. *f.* 1.?

β. galeâ minus glandulosâ, caule flexuoso foliato, spicâ abbreviatâ sub 10-florâ.

γ. foliis radicalibus 2 oblongis, caule pubescente, spicâ breviore, floribus majoribus.

Hab. ad *Prom. B. Spei*; *α*, in Piquetbergen, *Drège*; *β*, *Ecklon*; *γ*, ad Nieuwekloof, *Drège*. (*hab. s. sp.*)

S. bracteato valdè affine; diversum tamen spicâ minùs elongatâ, bracteis reflexis, cæt.

34. Satyrium pictum.

S. folio infimo oblongo-subrotundo superioribus ovalibus basi caulem vaginantibus, spicâ angustâ bracteis ovatis acuminatis patentissimis floribus longioribus, sepalis petalisqe linearibus obtusis 1-veniis lateralibus longioribus, galeâ glabrâ striatâ acuminatâ ecarinatâ apice ciliatâ, calcaribus brevissimis gibbosis.

Hab. ad *Prom. B. Spei*, in Ruigtevalei, *Drège*. (*hab. s. sp.*)

Facies *S. bracteati*, quo differt bracteis longioribus, caule glabro, foliorum labelli petalorumque formâ. Flores striati, parvi.

35. Satyrium cordifolium.

S. folio (solitario?) subrotundo-cordato acuto caulis unifoliati longitudine, spicâ oblongâ nutante, bracteis triangularibus cordatis acuminatissimis densissimis reflexis ciliatis floribus multò longioribus, sepalis lateralibus falcatis obtusis sepalis petalisque acutiusculis multò majoribus, labello glabro galeato valdè convexo carinato basi bisaccato, ovario carinâque labelli pubescentibus, stigmatis labio galeæ proximo bidentato.

Hab. ad *Prom. B. Spei*, in Katberg, *Drège*. (*hab. s. sp.*)

A most distinct species, with very large, densely imbricated, reflexed, acuminated bracts. The flowers are the largest of any in the section, except *S. muticum*.

36. Satyrium muticum.

S. foliis radicalibus cordato-orbiculatis planis, vaginis caulis striatis appressis imbricatis apice foliosis, spicâ oblongâ laxiusculâ bracteis oblongis concavis reflexis floribus longioribus, sepalis membranaceis integerrimis papillosis intermedio lineari obtuso lateralibus oblongis falcatis, petalis spathulatis pubescentibus crispis lacerisque cum sepalis altè connatis, labello oblongo galeato ecalcarato apice membranaceo crispo.

Hab. ad *Prom. B. Spei*, *Mundt*, ad Driefontein, prope Gauritzrivier, *Drège*. (*hab. s. sp.*)

Species eximia, foliis fere *Platantheræ orbiculatæ*. Caulis pedalis, crassus, rectus. Spica sub 12 flora. Flores inter maximos generis. Petalis laceris *S. membranaceo* accedit.

37. Satyrium trinerve.

S. foliis caulinis angustè lanceolatis carinatis trinerviis erectis supremis vaginæformibus obtusis, spicâ densâ ovatâ angulis omnibus scabris, bracteis acuminatis patentibus floribus longioribus, sepalis lateralibus

linearibus petalis et intermedio duplò majoribus, labello apice obtuso subrecurvo basi bisaccato, ovario tomentoso.

Hab. in *Madagascar, Lyall.* (*exam. s. sp. in herb. Hooker.*)

Folia radicalia desunt. Caulis sesquipedalis, gracilis. Spica sesquipollicaris. Flores parvi.

Species dubia, mihi ignota.

38. Satyrium striatum. *Thunb. Prodr. Cap.* 6. *Fl. Cap. ed. Sch. p.* 19.

S. "foliis ovatis cucullatis, floribus spicatis, bracteis rhombeis erectis, galeâ excisâ, calcaribus brevibus ovatis."

Hab. ad *Prom. B. Spei,* in Picketberg, prope rivulos, Thunberg.

Galea latissima, intùs striis quinque purpureis, fornicata, obtusa, subexcisa, dorso sulcata. Sepala lateralia oblonga, apice latiora, striis obsoletis purpureis lineata. Petala obtusa, subfalcata, striâ duplici purpureâ. Thunb.

CXCVII. SATYRIDIUM.

Sepala libera, secunda, patentia, æqualia. Petala conformia, patentia. Labellum posticum, patens, planum, acuminatum, basi bicalcaratum. Columna gracilis, libera; antherâ rectâ, resupinatâ, biloculari; stigmate minuto truncato ad apicem columnæ. Pollinia caudiculis 2 connatis glandulæ unicæ (stigmatis apici) agglutinatis.——Planta capensis habitu Orchidis.

Genus Satyrio diversum glandulâ solitariâ, floribus explanatis, et stigmate minuto 1-labiato nec dilatato bilabiato.

1. Satyridium rostratum.

Hab. ad *Prom. B. Spei,* in montibus prope Dutoitskloof, *Drège.* (*hab. s. sp.*)

Planta spithamæa, recta, glaberrima, radicibus testiculatis. Folia angustè lanceolata, acuta, sensìm caulem vaginantia, inferiora sesquipollicaria. Spica sesquipollicaris, laxiuscula, bracteis ovatis retrofractis floribus brevioribus. Flores verosimiliter albi, purpureo suffusi. Sepala lineari-lanceolata, obtusiuscula, subæqualia. Petala conformia sed magis erecta, teneriora, patentia, basi torta. Labellum posticum, patens, a latâ basi in acumen planum abruptè acutum productum, bicalcaratum, purpureo maculatum, calcaribus crassis obtusis ovario duplò brevioribus.

CXCVIII. AVICEPS.

Sepala ringentia, basi connata; labello galeato basi bisaccato, sepalis in labium inferius tridentatum coadunatis. Petala O. Columna teres, elongata, sub galeâ recondita. Stigma bilabiatum: labio postico maximo emarginato, antico utrinque in brachium porrectum producto. Anthera resupinata; caudiculis nudis secus brachia stigmatis productis; glandulis 2 nudis.——Herba pumila, foliosa, radicibus testiculatis. Flores ringentes, axillares, inter folia abditi.

1. Aviceps pumila.

? Satyrium pumilum. *Thunb. Prodr. Cap.* 6, *Fl. Cap. ed. Sch.* 19. *Swartz Act. Holm.* 1800. p. 216.

Hab. ad *Prom. B. Spei;* prope Ezelsfontein et Leliefontein, *Drège;* in monte Picketberg dicto, prope rivulos, Thunberg. (*hab. s. sp.*)

Planta 1½-4 poll. alta, erecta, densè foliacea; tuberculis oblongis simplicibus ut in Orchide mascula. Folia 2-4, ovata, acuta, undulata, glabra, basi in petiolum membranaceum angustata, 1-1½ poll. longa. Spica pyramidalis, a caule folioso parum diversa; bracteis erectis, foliis omninò similibus, sed sensìm apicem versus diminutis. Flores bracteis duplò breviores, semipollicares (fortè majores), striati, ringentes, quodammodo caput aviculæ simulantes. Galea acuta, recta, labio inferiore longior, leviter carinata, basi sacculis 2 ovatis aucta; labium inferius planiusculum, tridentatum: laciniis lateralibus obtusis apice incurvis, intermediâ minore, ovatâ, omnibus venâ mediâ simplici incrassatâ.

I think this plant must be Thunberg's Satyrium pumilum; but he speaks distinctly of the petals of that species, under the name of "laciniæ duæ interiores anteriores," and of the sepals which he calls "laciniæ laterales exteriores." The former are present and are the sepals; but the latter have no existence. I presume however there has been some mistake in the description given by Thunberg, for in all other respects it agrees well with the present species.

CXCIX. DISA.

Disa. *Linn. Suppl. Swartz Act. Holm.* 1800. *p.* 208. *t.* 3. *f. B.*

Perianthium ringens. Sepala libera, æqualia, intermedio galeato, calcarato vel saccato. Petala minora, erecta, basi columnæ adnata. Labellum liberum, filiforme aut dilatatum, integrum aut multifidum. Columna bipartita (anthera et stigmate sejunctis). Anthera bilocularis, erecta vel supina, glandulis duabus distantibus nudis. Stigma truncatum v. convexum, disco obscurè trilobum, sæpè tuberculiforme, ad basin columnæ situm.* Semina in pluribus speciebus (an omnibus?) atra, crustacea, nitida, testâ adhærente apice et basi tantum libera.—Herbæ terrestres, Capenses, habitu vario, scapo terminali uni-multifloro.

Genus speciebus pulcherrimis superbiens, formâ variis, genitalibus diversissimis, difficillimè ordinandum et Botanicorum Capensium in solo natali studio anxiè commendatum. Mihi, post specierum ultra trigintà investigationem cautam an unum solum sit genus, Penthea, Herschellia

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* In Mr. Bauer's Illustrations, p. xi. line 11 from the bottom, the word "usually" is accidentally omitted after "and." This error gives a very incorrect view of my opinion as to the nature of the stigma in plants of this series of Ophrydeæ. I understand the tubercle at the base of the tip of Disa, &c to be the anterior stigma, which is usually rudimentary or suppressed, in a perfect state, the two posterior lobes being in this case abortive. The generic characters of Monadenia, Schizodium, Penthea, &c. sufficiently explain this.

Monadenia Schizodioque sejunctis, an plura omninò dubium videtur. Intereà sectiones 11, characteribus variis fretas proponere licebit.

Conspectus sectionum.

A. Antherâ erectâ

§ 1. Macranthæ.
§ 2. Micranthæ

B. Antherâ supinâ.

§ 3. *Repandra.* Galea incumbens, postica, calcarata. Labellum oblongum aut lineare. Petala supina, falcata. Flores spicati.
§ 4. *Phlebidia.* Galea infundibuliformis, recurva. Labellum oblongum. Petala supina unidentata. Caulis uniflorus.
§ 5. *Vaginaria.* Galea antica, horizontalis. Labellum oblongum. Petala lobata auriculæformia. Flores sessiles terminales subsolitarii.
§ 6. *Pardoglossa.* Galea antica, saccata. Labellum oblongum utrinque in angulum acutum productum. Petala falcata, supina, apice callosa. Flores corymbosi.
§ 7. *Coryphæa.* Galea erecta, basi infundibuliformis vel saccata. Labellum filiforme aut acuminatum. Petala erecta.——Flores sæpiùs corymbosi ; bracteæ magnæ membranaceæ.
§ 8. *Stenocarpa.* Galea erecta, basi infundibularis. Labellum apice dilatatum lobatum. Petala supina, falcata, basibus productis antheræ adnata.——Flores laxè racemosi. *Sp.*
§ 9. *Oregura.* Galea incumbens, infundibularis. Labellum oblongum. Petala supina, falcata, libera.——Flores laxè spicati. Folia setacea.
§ 10. *Trichochila.* Galea incumbens, calcarata. Labellum lacerum, sessile vel sæpiùs unguiculatum.——Flores laxè spicati, nunc subsolitarii. Folia setacea.
§ 11. *Disella.* Galea postica, basi saccata. Labellum filiforme. Petala erecta.——Flores densè spicati, minuti. Folia sæpiùs filiformia.

A. Anthera erecta.

§ 1. *Macranthæ.*

1. Disa grandiflora. *Linn. Suppl.* 406. *Swartz Act. Holm.* 1800. *p.* 210. *Thunb. Fl. Cap. ed Sch.* 7. *Bot. Reg. t.* 926.

D. caule folioso sub-bifloro, foliis lanceolatis acutis, sepalis oblongis acuminatis, galeâ cucullatâ obtusâ vel acutâ, calcare supra basin brevi conico pendulo, petalis semilanceolatis denticulatis erectis, labello lineari-lanceolato.

Disa uniflora. *Berg. Fl. Cap.* 348, *t.* 4, *f.* 7.
Satyrium grandiflorum. *Thunb. Prodr.* 4.

Hab. ad *Cap. B. Spei, Burchell* (858) ; in summitate montis Tabularis, Thunberg, ad margines paludum turfosarum, æstate siccatis, hyeme inundatis, temperie inter 31½° et 96° Fahr. *Herschel ;* ad Dutoitskloof, *Drège.* (*hab. s. sp. et v. v. c.*)

A most beautiful species with flowers 3 or 4 inches in diameter. The lateral sepals are bright crimson ; the dorsal one is paler on the outside, and on the inside blush-coloured, delicately veined with crimson. Of the habits of this and some other Cape Ophrydeæ, an account is given by Sir John Herschel in the *Proceedings of the Horticultural Society,* vol. 1. p. 75.

2. Disa secunda. *Swartz l. c. Thunb. Fl. Cap.* 14.

D. foliis radicalibus brevibus ensiformibus erectis, caule nudo distanter vaginato, floribus distantibus secundis, sepalis oblongis æqualibus infra apicem mucronatis, galeâ conformi infra medium dorsi saccatâ, petalis oblongis acutis, labello filiformi sepalis duplò breviore.

D. racemosa. *Linn. Suppl.* 406.
Satyrium secundum. *Thunb. Prodr.* 4.

Hab. ad *Cap. B. Spei*; prope Fransche Hoek, Thunberg; in Dutoitsbergen, et Draakensteensbergen, *Drège.* (*hab. s. sp.*)

Flowers large, purple, from 4 to 7 on a scape about 2 feet high. It varies with narrower leaves, and sepals.

3. Disa crassicornis.

D. caule folioso, foliis ovato-oblongis acutis erectis superioribus minoribus, spicâ rarâ paucíflorâ, sepalis lateralibus oblongis sub apice mucronatis, galeâ minore longè infundibulari arcuato horizontali, petalis reflexis labelloque lanceolatis.

Hab. ad *Cap. B. Spei,* in summo monte Witbergen, *Drège.* (*hab. s. sp.*)

Vix pedalis, scapo foliis obtecto. Spica in exempl. nostro 4-flora. Galea cum calcare bipollicaris. Stigma latum margine superiore crenato, disco radiis tribus elevatis carnosis auctum. Anthera linearis, erecta, stipitata, rostello brevi, utrinque cucullo lacero aucto. Pollinia haud vidi; si his cucullis glandulæ includuntur genus erit Disâ diversum, cui nomen Pachycera idoneum videtur.

§ 2. *Micranthæ.*

4. Disa incarnata.

D. caule basi vaginato sursum folioso, foliis linearibus caulinis latioribus appressis acutis vaginantibus, spicâ ovatâ, bracteis oblongis acutis florum longitudine, sepalis oblongis obtusis, galeâ convexâ obtusâ medio calcare pendulo clavato ipsâ longiore auctâ, petalis orbiculatis dimidiatis galeæ appressis marginibus contiguis rectis rostratis, labello filiformi sepalis breviore.

Hab. in *Madagascar, Lyall.* (*hab. s. sp. comm. cel. Hooker.*)

Caulis pedalis, floridus vaginatus, sterilis foliosus. Spica pyramidalis, bipollicaris.

5. Disa gracilis.

D. caule basi folioso sursum vaginato, foliis ensiformibus erectis, vaginis laxis acutis, spicâ gracili multiflorâ, bracteis oblongis acutis florum longitudine, sepalis oblongis obtusis coriaceis, galeâ infra medium in calcar carnosum inflatum pendulum ovario brevius productâ, petalis obovatis emarginatis membranaceis, labello lineari.

Hab. ad *Cap. B. Spei*; in Langekloof, *Drège.* (*hab. s. sp.*)

This plant has much the appearance of a Monadenia; its stem is two feet high, with a slender spike; the expansion of the flowers is about ½ an inch. *D. physodes* of Thunberg, which I have never seen, seems from the description to be nearly allied to it. Perhaps this is only a starved state of *Disa chrysostachya*; Mr. Drège sent both under the same number.

6. Disa chrysostachya. *Swartz l. c. Willd. sp. Pl.* 3. 47.

D. caule folioso, foliis erectis lanceolatis, spicâ longissimâ densissimâ cylindraceâ apice attenuatâ, bracteis oblongis acutis florum longitudine, sepalis oblongis obtusis coriaceis, galeâ infra medium in calcar carnosum inflatum pendulum ovario brevius productâ, petalis obovatis apiculatis membranaceis, labello lineari.

Hab. ad *Cap. B Spei, Burchell* (4129) ; in Langekloof, *Drège.* (*hab. s. sp.*)

Caulis tripedalis, robustus. Folia radicalia sesquipedalia, superiora sensim minora. Spica sesquipedalis. Flores parvi, *D. gracili* simillimi. An species ista hujus forma macilenta ?

7. Disa polygonoides.

D. caule basi folioso apice vaginato, foliis lineari-lanceolatis caule parùm brevioribus, vaginis summis abbreviatis acutis arctè appressis, spicâ densâ ovato-cylindraceâ, bracteis oblongis floribus brevioribus, sepalis petalisque oblongis obtusis, galeâ obtusâ infra medium dorsi in calcar tenue clavatum ipsâ paulò longius productâ, labello lineari.

Hab. ad *Cap. B. Spei,* inter Omtata et Omsamwubo, *Drège.* (*hab. s. sp.*)

Caulis bipedalis et ultra. Folia pedalia, semi-pollicem lata. Spica densissima, 3-poll. longa. Flores parvi verosimiliter albi aut rosei.

B. Anthera supina.

§ 3. Repandra. *Galea incumbens, postica, calcarata. Labellum oblongum aut lineare. Petala supina, falcata.* Flores spicati.

8. Disa cornuta. *Swartz l. c. Thunb. Fl. Cap.* 7.

D. caule folioso, foliis lanceolatis erectis basi cucullatis, spicâ multiflorâ, bracteis oblongo-lanceolatis floribus longioribus, sepalis oblongis apiculatis, galeâ orbiculata in calcar infundibulare productâ, petalis falcatis supinis basi auriculatis, labello nano oblongo obtuso velutino.

Orchis cornuta. *Linn.! sp. pl.* 1330.
Satyrium cornutum. *Thunb. prodr.* 5.

Hab. ad. *Cap. B. Spei,* multis locis ; etiam in Outniqualand, *Drège.* (*hab. s. sp. et v. v. c.*)

Statura variat a palmari ad tripedalem. Labellum apice atrum aut purpureum.

9. Disa macrantha. *Thunb. Fl. Cap.* 8.

D. " galeâ acutâ erectâ, calcare conico porrecto, petalis interioribus retusis, labello oblongo acuto carinato."

Hab. ad *Cap. B. Spei,* Thunberg.

Calcar attenuatum, galeâ brevius. Flores *D. cornutæ* ferè majores. Mihi ignota.

10. Disa longifolia.

D. caule folioso, foliis linearibus erectis caule longioribus, spicâ oblongâ foliosâ bracteis longissimis linearibus basi vaginantibus, sepalis linearibus obtusis intùs pubescentibus, galeâ fornicatâ acutâ pubescente basi in calcare glabro subrotundo productâ, petalis auriculatis falcatis emarginatis supinis, labello lineari pubescente.

Hab. ad. *Cap. B. Spei,* in Piquetberg, *Drège.* (*hab. s. sp.*)

§ 3. Phlebidia. *Galea infundibularis, recurva. Labellum oblongum. Petala supina, unidentata.* Caulis uniflorus.

11. Disa longicornis. *Linn. Suppl.* 406. *Swartz l. c. Thunb. Fl. Cap.* 8.

D. foliis radicalibus oblongis petiolatis, caulis uniflori vaginis 2 membranaceis inferiore apice foliosâ, sepalis oblongis labelloque lineari-oblongo venosis membranaceis, galeâ pendulâ infundibulari, calcare ovario longiore, "petalis sublinearibus apice sensim attenuatis obtusis a latere exteriore dente obtuso magno decurrente auctis sepalis longioribus."

Hab. ad *Cap. B. Spei,* in monte Tabulari, in præruptis summitatis montis ad latus sinistrum, Thunberg. (*hab. s. sp. comm. cel. Hooker.*)

Caulis vix palmaris, uniflorus. Flos cæruleus venosus, 2 pollices latus, calcare sesquipollicari.

§ 5. Vaginaria. *Galea antica horizontalis. Labellum oblongum. Petala lobata auriculæformia.* Flores sessiles terminales subsolitarii.

12. Disa fasciata.

D. caule foliis parvis latis cuspidatis squamæformibus laxè vaginato, floribus solitariis geminisque terminalibus, sepalis oblongis obtusis mucronulatis intermedio antico basi calcare conico acuminato brevi acuto, petalis nanis subrotundis concavis auriculæformibus lobatis, labello oblongo-lanceolato concavo membranaceo.

Hab. ad *Cap. B. Spei, Ecklon.* (*v. s. sp. in herb. Hooker et Lehmann.*)

Vix palmaris. Caulis maculis atris fasciatus. Flores pallidi, majusculi, bracteis semiimmersi.

6. Pardoglossa. *Galea antica, saccata. Labellum oblongum, utrinque in angulum acutum productum. Petala falcata, supina, apice callosa.* Flores corymbosi.

13. Disa rosea.

D. foliis radicalibus ovato-oblongis obtusis, caule erecto sub-flexuoso, floribus corymbosis, bracteis angustis acutis vix pedicellis longioribus, sepalis oblongis obtusis, galeâ pendulâ sacco rotundato auctâ, petalis contortis subdentatis supinis apice carnosis subemarginatis, labello ovato-lanceolato obtuso canaliculato utrinque angulato.

Hab. ad *Cap. B. Spei, Hesse.* (*hab. s. sp. comm. cel. Hooker et Grisebach.*)

Caulis semipedalis corymbo 6-7-floro.

§. 7. Coryphæa. *Galea erecta, basi infundibularis vel saccata. Labellum filiforme aut acuminatum. Petala erecta.* Flores sæpiùs corymbosi; bracteæ magnæ membranaceæ.

14. Disa sagittalis. *Swartz. l. c. Thunb. Fl. Cap.* 9.

D. foliis radicalibus angustè oblongis obtusis margine revolutis, caulis vaginis 3 acuminatis distantibus, racemo paucifloro subcorymboso, bracteis oblongis acuminatis membranaceis ovarii longitudine, sepalis angustè oblongis acutis, galeâ sagittatâ pubescente basi acutâ conicâ, petalis a latâ basi abruptè acuminatis pubescentibus, labello lineari-lanceolato pubescente.

Orchis sagittalis. *Linn. Suppl.* 399.

Hab. ad *Cap. B. Spei, Hesse, Burchell,* 5344; in collibus Houtniquas, Thunberg. (*hab. s. sp.*)

Caulis digitalis. Bracteæ verosimiliter coloratæ.

15. Disa attenuata.

D. foliis radicalibus oblongis obtusis basi angustatis, caulis vaginis 4 acutis appressis, racemo subcorymboso, bracteis ovario attenuato duplò brevioribus, sepalis lineari-oblongis apiculatis, galeâ apice hastatâ pubescente basi conicâ pendulâ, petalis a latâ basi abruptè acuminatis villosis, labello lineari obtuso basi angustato.

Hab. ad *Cap. B. Spei,* ad Keureboomsrivier et in rupestribus Kopje, *Drège.* (*hab. s. sp.*)

Palmaris, *D. sagittalis* facie. Flores minores, ovarium magis attenuatum, bracteæ minores ovario duplò breviores, galea diversa.

16. Disa triloba.

D. foliis radicalibus . . . . . , caulis vaginis 4 acutis appressis, corymbo denso multifloro, bracteis oblongis acutis membranaceis ovarii longitudine, sepalis lanceolatis acutis, galeâ glabrâ obovatâ apice subtrilobâ, petalis linearibus obtusis rectis basi hinc dilatatis, labello lineari obtuso sepalis breviore.

Hab. ad *Cap. B. Spei,* in collibus prope Breederivier, *Drège.* (*hab. s. sp.*)

Statura et facies *D. sagittalis,* characteribus indicatis diversa.

17. Disa glandulosa. *Burchell, MSS.*

D. glanduloso-pubescens, foliis radicalibus parvis subrotundo-ovatis, caulis vaginis 8 membranaceis acuminatis appressis, floribus 5-6 densè corymbosis, bracteis venosis ovarii longitudine, sepalis concavis ovatis, galeâ basi in calcar latè conicum ipsius longitudine productâ, petalis subfalcatis labelloque æqualibus oblongis obtusis erectis apiculatis.

Hab. ad *Cap. B. Spei, Burchell,* 7337. (*exam. s. sp. in hb. Burchell.*)

18. Disa venosa. *Swartz. l. c. Thunb. Fl. Cap.* 15.

D. foliis radicalibus lanceolatis glaucis, caulis vaginis 4-6 appressis acutis, racemo paucifloro laxo, bracteis ovatis acutis ovario duplò brevioribus, sepalis oblongis obtusis venosis, galeâ patulâ dorso obtusè conicâ, petalis oblongis obtusis integris, labello lineari sepalis multò breviore.

Orchis tripetaloides. *Linn. ! Suppl.* 398.

Hab. ad *Cap. B. Spei,* Thunberg, *Burchell.* 7409 (*hab. s. sp. comm. cel. Burchell.*)

The *Orchis tripetaloides* certainly belongs to this species, and not to the D. excelsa of Thunberg, of which I have seen no specimens, but which would seem from the description to be quite a different plant.

19. Disa caulescens.

D. caule gracili folioso ascendente, foliis distantibus inferioribus lineari-lanceolatis supremis linearibus diminutis, racemo laxo flexuoso, bracteis linearibus acutis ovario brevioribus, sepalis oblongis angustis horizontalibus sub apice mucronulatis, galeâ pendulâ basi conicâ acutâ, petalis subrotundo-cuneatis apice denticulatis, labello filiformi.

Hab. ad *Cap. B. Spei,* ad Malbrokskloof, et Dutoitskloof, *Drège.* (*hab. s. sp.*)

Palmaris ad sesquipedalem, racemo 3-12-floro. Flores *D. venosæ* similes, sed pallidiores.

20. Disa nervosa.

D. caule folioso rigido stricto, foliis nervosis ensiformibus acutatis, racemo denso ovato obtuso bracteis angustè oblongis apiculatis flore paulò brevioribus, sepalis oblongis erectis obtusis sub apice acutè et latè carinatis, galeâ paulò breviore obtusâ basi in calcar filiforme productâ, petalis linearibus subfalcatis apice truncatis denticulatis, labello lineari.

Hab ad *Cap. B. Spei,* inter Omtata et Omsamwubo, et prope Omsamcala, *Drège.* (*hab. s. sp.*)

Caulis sesquìpedalis et bipedalis. Folia, in sicco, valdè nervosa, semipedalia. Racemus tripollicaris. Sepala ferè uncialia. Bracteæ nervosæ.

21. Disa Draconis. *Swartz. l. c. Thunb. Fl. Cap.* 10.

D. foliis radicalibus angustis canaliculatis recurvis, vaginis caulis bracteisque floribus subæqualibus membranaceis acutis reticulatis, racemo oblongo laxo multifloro, sepalis elongatis oblongisve acutis, galeâ erectâ obtusâ calcare longissimo subulato ovario longiore, petalis acuminatis retusis sepalis paulò brevioribus, labello lineari apice dilatato obtuso.

Orchis Draconis. *Linn. Suppl.* 400.
Satyrium Draconis. *Thunb. Prodr.* 5.

Hab. ad *Cap. B. Spei,* in Roggevelt, Fransche Hoek, alibique, Thunberg; Paarlberg, Nieuwe Kloof, et Camiesbergen, *Drège.* (*hab. s. sp.*)

Species pulchra, sesquipedalis, bracteis vaginisque membranaceis reticulatis insignis. Galea alba, sepala flavescenti-alba, petala striis margineque antico purpureis, labellum album, ex *Thunb.*

§ 8. Stenocarpa. *Galea erecta, basi infundibularis. Labellum apice dilatatum, lobatum. Petala supina, falcata, basibus productis antheræ adnata.* Flores laxè racemosi.

22. Disa gladioliflora. *Burchell, MSS.*

D. foliis . . . , caule gracili, vaginis angustis distantibus apice herbaceis setaceis, racemo laxo 9-10-floro, bracteis ovatis setaceo-acuminatis ovario gracillimo duplò brevioribus, sepalis linearibus apice latioribus, galeâ arcuatâ erectâ obtusâ subdentatâ basi in cornu arcuato productâ, labello lineari apice latiore tridentato sepalorum longitudine, petalis falcatis acuminatis basi dilatatis.

Hab. ad *Cap. B. Spei, Burchell,* 5184, (*hab. s. sp. comm. cel. Burchell.*)

Caulis sesquipedalis. Flores parvi.

§ 9. Oregura. *Galea incumbens, infundibularis. Labellum oblongum. Petala supina, falcata, libera.* Flores laxè spicati. Folia setacea. Caulis calamiformis.

23. Disa porrecta. *Swartz l. c. Willd. Sp. Fl. no.* 8. *Ker in Brande's Journal, vol.* 5, *t.* 5, *f.* 1.

D. foliis radicalibus setaceis basi lanatis, caule stricto vaginis distantibus membranaceis setaceo-acuminatis, spicâ ovatâ v. oblongâ laxâ, bracteis setaceo-acuminatis ovario brevioribus, sepalis oblongis concavis infra apicem cirrhosis, galeâ horizontali infundibulari calcare

ovario breviore, petalis supinis falcatis basi auriculatis liberis, labello lanceolato.

Hab. ad *Cap. B. Spei.* (*hab. s. sp. comm. cel. Burchell, no.* 8199.)

Flores coccinei 9 lineas longi. Caulis sesquipedalis, calamum corvinum crassus. Folia vix semipedalia.

§ 10. Trichochila. *Galea incumbens, calcarata. Labellum lacerum, sessile, vel sæpiùs unguiculatum.* Flores laxè spicati, nunc subsolitarii. Folia angustissima.

24. Disa spathulata. *Swartz l. c. Thunb. Fl. Cap.* 15. *Bauer's Illustr. Gen. t.* XIV.

D. foliis angustissimis rigidis striatis apice latioribus subfalcatis, caulis stricti foliis duplo longioris subbiflori vaginis 3 distantibus laxis acuminatis, bracteis oblongis acuminatis ovario duplò brevioribus, sepalis ovatis apice inflexis acuminatis tortis, galeâ ovatâ incumbente crenulatâ calcare brevi recto intùs villoso supra basin auctâ, labello subrotundo-cordato trilobo crenato longè unguiculato, petalis supinis falcatis bipartitis serratis basi auriculatis.

Orchis spathulata. *Linn. Suppl.* 396.
Satyrium spathulatum. *Thunb. Prodr.* 5.

Hab. ad *Cap. B. Spei,* in collibus prope villam Mosselbank, juxta Mosselbanks Rivier, prope Ribeck Casteel, Picketberg, in Roodezand et prope urbem Cap., florens Septembri, Octobri, Thunberg; inter Paarl et Paarleberg, *Drège.* (*hab. s. sp.*)

Caulis subpedalis, leviter flexuosus. Tubercula radicis testiculata lanata. Foliá basi glabra.

According to Thunberg, the Colonists of the Cape call this plant Moder Haartslag. It is a pretty species with green and pink flowers.

25. Disa tripartita.

D. foliis angustissimis rigidis striatis falcatis versus apicem latioribus, caulis foliis paulò longioris subbiflori vaginis 3 laxis acuminatis distantibus, bracteis oblongis acuminatis ovario duplò brevioribus, sepalis ovatis apice inflexis, galeâ ovatâ incumbente obsoletè crenatâ calcare brevissimo recto obtuso supra basin auctâ, labello tripartito laciniis linearibus intermediâ flexuosâ longissimâ, petalis supinis bidentatis.

Hab. ad *Cap. B. Spei,* prope Albany, *Drège.* (*hab. s. sp.*)

I have seen only one specimen of this remarkable plant, which resembles Disa spathulata in habit, but has quite a different lip. It has not been in my power to determine with certainty the form of the petals.

26. Disa multifida.

D. foliis filiformibus rigidis striatis, caulis gracilis calamiformis vaginis 6-7 membranaceis acuminatis distantibus, floribus paucis secundis bracteis ovatis acutis ovarii longitudine, sepalis ovatis patulis rectis apice mucronatis, galeâ acutâ basi conicâ ovario duplò breviore, petalis . . . ., labello a latâ basi unguiculato multifido.

Hab. ad *Cap. B. Spei,* in Cederbergen, *Drège.* (*hab. s. sp.*)

Tubercula radicum fusiformia, fabricâ internâ in hac aliisque valdè sin-

gulari, quasi cellulis compositis separabilibus farctâ, microscopistis commendatâ. Caulis ferè bipedalis. Flores magnitudine *D. barbatæ.*

27. DISA barbata. *Swartz, l. c. Thunb Fl. Cap* 11.

D. foliis angustissimis rigidis nervosis caulis longitudine, caule calamiformi vaginis 7-8 distantibus membranaceis acuminatis, floribus secundis racemosis bracteis ovatis acuminatis vix pedicellis longioribus, sepalis ovatis acutis patulis, galeâ subrotundo-ovatâ acutâ erectâ posticè in calcar breve conicum ascendens productâ, petalis abruptè geniculatis apice obliquè dilatatis inæqualiter 3-4-dentatis, labello sessili multipartito.

Orchis barbata. *Linn. Suppl.* 399.
Satyrium barbatum. *Thunb. Prodr.* 5.

Hab. ad *Cap. B. Spei,* prope fluvios Kalbeljaus et Zeekorivier, nec non in Hottentots Hollandberg, Thunberg. (*hab. s. sp. comm. cell. Hooker et Burchell,* no. 4572.)

Caulis 2-3-pedalis, 6-00-florus, (2-8-florus Thunb.). Flores cinerei, venis cærulescentibus.

28. DISA lacera. *Swartz l. c. Willd. Sp. Pl.* 4. 50. *Thunb Fl. Cap.* 12.

D. foliis filiformibus rigidis contortis striatis caulis longitudine, caule calamiformi vaginis 5-6 valdè membranaceis et appressis acutissimis, floribus subsecundis racemosis bracteis ovatis acutis pedicellis paulò longioribus, sepalis oblongis cum acumine, galeâ subrotundo-ovata obtusâ cum acumine in calcar conicum ovario duplò brevius productâ, petalis falcatis obtusis, labello sessili ovato fimbriato.

Eulophia hians. *Spreng. Syst. Veg.* 3. 720. *Supra, p.* 183.
Satyrium hians. *Linn. Suppl.* 401.
Limodorum hians. *Swartz l. c. Willd. Sp. Pl.* 4. 128. *nec Thunb. Fl. Cap.*

Hab. ad *Cap. B. Spei* ; in Langekloof, *Drège.* (*hab. s. sp.*)

This is very like *D. barbata* in some respects ; but its leaves are narrower, the flowers not more than half the size, and according to Thunberg whitish.

§ 11. DISELLA. *Galea postica, basi saccata. Labellum filiforme. Petala erecta.* Flores densè spicati, minuti. Folia sæpiùs filiformia.

29. DISA bracteata. *Swartz l. c. Willd. Sp. Pl.* 4. 48. *Bot. Reg.* 324.

D. caule folioso, foliis lanceolatis erectis basi vaginantibus, spicâ multiflorâ laxiusculâ, bracteis foliaceis acuminatis florum longitudine, sepalis reflexis ovato-lanceolatis acutis, galeâ ovali obtusâ basi in calcar breve obtusum productâ, petalis lineari-lanceolatis obtusis basi obliquis cordatis, labello lineari obtuso.

Hab. ad *Cap. B. Spei, Ecklon.* (*hab. s. sp. comm. cel. Lehmann.*)

Flores parvi virides, galeâ fuscâ. Caulis spithamæus.

30. DISA tenuis.

D. foliis setaceis caule tenui distanter vaginato multò brevioribus, spicâ laxâ multiflorâ angulatâ flexuosâ, bracteis setaceo-acuminatis ovarii longitudine, sepalis ovatis sub apice mucronatis, galeâ erectâ basi conicâ ascendente, petalis linearibus subfalcatis obtusis basi auriculatis, labello filiformi sepalis breviore.

Hab. ad *Cap. B. Spei,* prope Wynberg, in arenosis, *Drège.* (*hab. s. sp.*)

31. Disa tenella. *Thunb. Fl. Cap. ed. Sch.* 11.

D. caule folioso, foliis e latâ basi filiformibus flexuosis, spicâ densâ, bracteis subrotundo-ovatis apice foliaceis calcare sepalorum longitudine, labello spatulato, petalis acutis.

Orchis tenella. *Linn. Suppl.* 400.
Satyrium tenellum. *Thunb. Prodr. p.* 5.

Hab. ad *Cap. B. Spei, Hesse*; in campis arenosis, locis inundatis inter urbem Cap. et seriem magnam montium, florens Junio, etc. *Thunberg*; Roodezand, *Drège*; Uitenhage, *Ecklon*. (*hab. s. sp.*)

Flores rubri, *Thunb.* Caulis digitalis. Bracteæ apice foliaceæ, acuminatæ, floribus duplò longiores. Sepala oblonga. Petala acuta, rhomboidea, nullo modo acuminata. Labellum apice latius.

32. Disa brachyceras.

D. caule folioso, foliis e latâ basi filiformibus flexuosis, spicâ densâ, bracteis subrotundo-ovatis apice foliaceis superioribus haud floribus longioribus, calcare brevi conico acuto, labello lineari, petalis acuminatis.

Hab. ad *Cap. B. Spei*; prope Donkerhoek, *Drège*. (*hab. s. sp.*)

Præcedenti similis, sed flores duplò minores. Sepala acuta. Petala rhomboidea, in acumen obtusum producta. Labellum lineare basi latius. Bracteæ inferiores floribus longiores.

33. Disa obtusa.

D. caule folioso, foliis lineari-lanceolatis, spicâ densâ, bracteis oblongis concavis florum longitudine, calcare brevissimo obtuso, labello lineari membranaceo sepalisque lateralibus supremo multò brevioribus, petalis minimis linearibus subfalcatis basi in dentem obtusum productis.

Hab. ad *Cap. B. Spei, Sieber*. (*exam. s. sp. in hb. Hooker.*)

Caulis palmaris, foliis erectis lineari-lanceolatis basi vaginantibus vestitus. Spica elongata. Bracteæ oblongæ, concavæ, florum longitudine vel paulò breviores. Galea oblonga, obtusa, erecta, basi in gibbum obtusum brevem producta. Sepala lateralia oblonga obtusa. Petala minora, versus dorsum galeæ arcuata, linearia, obtusa, basi anteriore in angulum obtusum extensa.

¶ *Species mihi ignotæ.*

34. Disa (Oregura ?) bifida. *Thunb. Fl. Cap. ed. Sch.* 9.

Hab. ad *Cap. B. Spei*, in interioribus regionibus, Thunberg.

Scapus pedalis. Flores *secundi*, bracteis acuminatis capsulâ multoties brevioribus. Galea fornicata, erecta, calcare cylindraceo, horizontali, unguiculari, *apice bifido*. Sepala oblonga, obtusa, carinata, patentia. Petala galeâ tecta, recurva, basi latiuscula, erecta. Labellum sepalis simile.

35. Disa (Oregura ? ?) ferruginea. *Thunb. l. c.* 11.

Hab. ad *Cap. B. Spei*, in frontispicio montis Tabularis, Thunberg.

Scapus pedalis, vaginis pluribus membranaceis, cuspidatis. Spica pollicaris, rarior. Flores *resupinati*. Galea fornicata, calcare saccato, subulato, basi ampliore, capsulâ ferè longiore. Sepala ovato-lanceolata, *setaceo-cuspidata*. Petala linearia. Labellum sepalis brevius, concavum erectiusculum.

36. Disa cernua. *Thunb. l. c.*

Hab. ad *Cap. B. Spei,* Thunberg.

Tuberculum difforme. Caulis foliosus, pedalis et ultrà. Folia carinata, rigida, subcoriacea, margine membranacea. Spica pedalis, *apice cernua,* subdensa. Galea erecta, fornicata. Calcar subinflatum, *venosum.* Sepala ovato-lanceolata, acuta, erecto-patentia. Petala galea tecta, e basi latâ lanceolato-acuminata, falcata, *venosa.* Labellum lineare, obtusum. An Monadenia? An potius Coryphæis affinior?

37. Disa physodes. *Thunb. l. c.* 12.

Hab. ad *Cap. B. Spei,* infra Paarlberg, Thunberg.

Caulis foliosus, pedalis et ultrà. *Folia equitantia,* spithamæa. Spica pedalis, apice cernua; laxiuscula. Galea erecta, fornicata, *emarginata,* calcare gibbo subdidymo dependente. Sepala ovata, obtusa, reflexa. Petala galeâ tecta, sublinearia, basi latiora concava, *apice emarginata,* crassiuscula, saturatè purpurea. Labellum lineare, obtusum, integrum. An Monadenia?

38. Disa cylindrica. *Thunb. l. c.*

Caulis pedalis. Folia alternatim vaginantia, pollicaria v. ultra. Spica *subcylindrica,* digitalis. Flores *minuti, numerosissimi.* Galea fornicata, ovata, calcare brevi. Sepala ovato-lanceolata, vix acuta, patentia. Petala *lanceolata erecta. Labellum* lineari-oblongum, apice obovatum. An Monadenia, densifloræ affinis?

39. Disa (Coryphæa?) excelsa. *Swartz. l. c. Thunb. l. c.*

Hab. ad *Cap. B. Spei,* in collibus Houtniquas, prope rivos in Langekloof, et Kramrivier, florens Novembri, Thunberg.

Folia *radicalia,* 6 v. plura, *lanceolata,* acuta, erecta, *digitalia.* Scapus *filiformis,* bipedalis. Spica *rara, palmaris* et ultra, floribus 20-30. Galea calcare brevissimo obtuso porrecto. Sepala ovato-lanceolata. Petala minima, lanceolata, falcata. Labellum integrum, concavum, leviter margine undulatum.

The *Orchis tripetaloides* of Linnæus is apparently the *D. venosa* of Thunberg, although quoted by that author to the present species, which seems quite different, so far as can be judged by the description in the Flora Capensis.

CC. MONADENIA.

Perianthium ringens. Sepala membranacea, libera, supremo galeato basi calcarato. Petala carnosa. Labellum liberum, oblongum, carnosum, planum. Columna nana, bipartita (stigmate antherâque sejunctis). Stigma carnosum, elevatum, truncatum, basi labelli situm. Anthera resupinata, caudiculis in glandula unica connatis. Stamina sterilia, libera ———. Herbæ Capenses, radicibus testiculatis, foliis facieque Ophrydis.

Genus a Disâ cæterisque affinibus optimè distinctum glandulis polliniorum in unam concretis petalisque subæqualibus carnosis nunc conformibus nunc labello lineari.

1. Monadenia rufescens.

M. foliis radicalibus binis oblongis, caule vaginato, bracteis oblongis acutis floribus multo brevioribus, calcare lineari pendulo sepalis multo longiore.

Satyrium rufescens. *Thunb. Prodr.* 5.
Disa rufescens. *Swartz Act. Holm.* 1800, *p.* 210. *Thunb. Fl. Cap. ed. Schultes*, 13.

Hab. ad *Cap. B. Spei, Forbes*; in arenosis Groenekloof, *Thunberg*; in Draakensteenbergen et prope Gnadenthal, *Drège* (*hab. s. sp.*)

Corolla purpurascens. *Thunb.*

I know no plant to which the definitions of Swartz and Thunberg exactly apply. It would seem as if they had not distinguished M. brevicornis from rufescens, and had described the leaves of one and the flowers of another. The description however in Thunberg's Flora Capensis applies exclusively to this.

2. Monadenia brevicornis.

M. foliis ensiformibus acuminatis caulem vestientibus, bracteis oblongis acuminatis floribus longioribus, calcare inflato compresso sepalis vix longiore.

Hab. ad *Cap. B. Spei, Mundt.* (*hab. s. sp. comm. cel. Hooker.*)

A præcedente bracteis longis foliisque acuminatis erectis caulem loco squamarum vestientibus primo intuitu distinguenda. Petala præterea breviora sunt, et magis emarginata. Statura palmaris.

3. Monadenia micrantha.

M. foliis ensiformibus acuminatis caulem vestientibus, bracteis apice foliosis longè acuminatis, sepalis petalisque acutis, calcare filiformi obtuso sepalis longiore.

Hab. ad *Cap. B. Spei; Thom, Burchell,* (no. 6139); ad Nieuwekloof, et Ruigtevalei, *Drège.* (*hab. s. sp.*)

Facie omnino *M. brevicornis*; foliis bracteisque longè acuminatis, floribusque multò minoribus diversissima. Galea apice acuta inflexa. Sepala ovata, acuminata. Petala ovata, acuminata, apice inflexa. Labellum lineare, obtusum, membranaceum, sepalis brevius.

Folia lutescentia. Flores maleolentes, apicibus roseis. *Thom in Herb. Hooker.*

4. Monadenia densiflora.

M. foliis erectis lanceolatis canaliculatis acutis caulis longitudine, spicâ densâ cylindraceâ bracteis oblongis acutis concavis florum longitudine, sepalis lateralibus oblongis superiore brevioribus, calcare pendulo filiformi anticè alato, petalis ovatis subtortis apice carnosis obtusis galeâ duplò brevioribus, labello lineari-spathulato carnoso sepalis longiore.

Hab. ad *Cap. B. Spei, Thom*; prope *Paarl, Drège.* (*hab. s. sp.*)

5. Monadenia macrostachya.

M. foliis radicalibus lanceolatis erectis caulis brevis longitudine, spicâ elongatâ apice rariore bracteis lanceolatis florum longitudine, sepalis lanceolatis acutis lateralibus membranaceis calcare inflato pendulo semicylindraceo, petalis oblongis obtusis facie subverruculosis margine postico in angulum obtusum producto, labello lineari obtuso sepalorum longitudine.

Hab. ad *Cap. B. Spei*; in Camiesbergen, *Drège.* (*hab. s. sp.*)

6. MONADENIA macrocera.

M. foliis paucis ensiformibus canaliculatis distantibus caulem vestientibus, spicâ strictissimâ floribus distantibus axi arctè appressis, bracteis ovario longissimo brevioribus, sepalis ovatis acutis calcare longissimo filiformi pendulo, petalis labelloque pendulo ovatis acutis.

Hab. ad *Cap. B. Spei, Thom.* (*exam. s. sp. in hb. Hooker.*)

Species palmaris, exilis, caule spicâ tertiâ parte breviore. Ovarium unciale.

7. MONADENIA ophrydea.

M. caule flexuoso folioso, foliis distantibus linearibus patulis basi vaginantibus, spicâ 4-florâ floribus longè distantibus, bracteis oblongis acutis ovarii longitudine, sepalis lateralibus oblongis supremo obtusissimo, calcare filiformi ovarii longitudine, petalis oblongis obtusissimis margine posteriore dilatatis facie verruculosis, labello lato-lineari sepalis longiore.

Hab. ad *Cap. B. Spei*; in Draakensteensbergen, *Drège*. (*hab. s. sp.*)

Caulis palmaris. Folia infima squamiformia, in caule 3. Ovarium ferè 2 poll. longum, internodio paulò longiore. Flores maximi generis.

8. MONADENIA prasinata.

M. foliis radicalibus ensiformibus caulinis erectis canaliculatis acuminatis imbricatis patulis, spicâ ovatâ densâ, bracteis oblongis acutis floribus subbrevioribus, sepalis lateralibus lineari-oblongis obtusis supremo cuneato obovato fornicato calcare parùm breviore, petalis lanceolatis apice obliquis obtusis emarginatis supra basin puncticulatis, labello lineari acutiusculo sepalorum longitudine.

Disa prasinata. *Ker. in Bot. Reg.* 3. *t.* 210.

Hab. ad *Cap. B. Spei.*

This is very near the last species, and is perhaps the same; but it appears to differ in having denser flowers, a shorter spur, and emarginate petals. The flowers are green with 3 crimson stripes within the upper sepal, and a few dots of the same colour at the base of the lateral ones.

CCI. SCHIZODIUM.

Disa torta. *Swartz Act. Holm.* 1800, *p.* 211. *Thunb. Fl. Cap. ed. Schultes*, 10. Orchis biflora. *Linn. Sp.* 1330. Satyrium tortum. *Thunb. Prodr.* 5.

Perianthium ringens. Sepala libera, canaliculata; supremo basi calcarato. Petala nana, apice carnosa, inæqualiter biloba aut obliquè torta, basi sæpiùs auriculata, per baseos medium columnæ adnata. Labellum liberum, lineare, acuminatum, sepalis æquale, supra basin constrictum, hypochilio concavo membranaceo, epichilio carnoso canaliculato. Columna bipartita (stigmate antherisque sejunctis). Stigma carnosum, elevatum, truncatum aut excavatum, basi labelli situm. Anthera resupinata, aut horizontalis, rostelli brachiis nunc truncatis, nunc acuminatis contortis. Polliniorum glandulæ 2, nudæ ———. Herbæ capenses, tuberculis pedunculatis. Folia radicalia, ovata aut obovata, petiolata, patentia. Caulis sæpiùs flexuosus, ad flexuras squamis vaginatus. Racemi laxi,

pauciflori, aut flos terminalis solitarius. Flores parvi, pedicellis filiformibus.

Several very distinct species appear to have been mentioned under the name of Disa torta, so that it is not possible to tell from descriptions or definitions to which the name has been applied. I have therefore quoted no synonym to the majority of the species, but have placed them under the genus.

Schizodium differs from Disa in its very peculiar habit, in the form of the labellum, and in the nearly constant lobing of the petals. The species are defined chiefly by the characters of their flowers.

1. Schizodium flexuosum.

S. sepalis subrotundo-oblongis obtusis venosis superiore apiculato calcare brevi inflexo, petalis integris basi dilatatis apice linearibus carnosis galeæ longitudine, labello ovato crispo apice acuminato integro.

Disa flexuosa. *Swartz in Act. Holm.* 1800, *p.* 212. *Thunb. Fl. Cap. ed. Schultes*, 9.
Orchis flexuosa. *Linn. Sp. Pl.* 1331.
Satyrium flexuosum. *Thunb. Prodr.* 9.

Hab. ad *Cap. B. Spei*; in arenosis depressis et vere inundatis campis Groenekloof et Swartland, inter Cap et Draakenstein, atque Stellenbosch, florens a Junio usque in Octobrem, Thunberg, prope Klein Draakenstein, *Drège*. (*hab. s. sp.*)

Maximum generis, caule 1-1½-pedali, rigido, nitido, valdè flexuoso, ad omnem flexuram vaginâ rigidâ erectâ concavâ obtusâ aucto. Flores crocei.

2. Schizodium arcuatum.

S. sepalis acuminatissimis canaliculatis arcuatis lateralibus longioribus calcare ascendente filiformi, petalis duplò brevioribus lobo altero lineari auriculâ baseos lineari rotundatâ integerrimâ, labello glabro epichilio filiformi basi rhombeo concavo marginibus inflexis.

Hab. ad *Cap. B. Spei*; prope Caledon? *Drège*. (*hab. s. sp.*)

3. Schizodium longipetalum.

S. sepalis acuminatissimis canaliculatis arcuatis lateralibus longioribus calcare descendente filiformi, petalis sepalo supremo æqualibus lobo altero lineari basi exauriculatis, labello glabro epichilio filiformi recto basi dilatato subrotundo membranaceo.

Hab. ad *Cap. B. Spei*; in Paarlberg, *Drège*. (*hab. s. sp.*)

Flores paulò minores quam in præcedente.

4. Schizodium obtusatum.

S. sepalis linearibus subæqualibus obtusis calcare ascendente apice retuso, petalis brevissimis pubescentibus obliquè truncatis auriculâ baseos adnatâ rotundatâ glabrâ, labello pubescente epichilio ovato acuminato obtuso canaliculato.

Hab. ad *Cap. B. Spei*, ad Dutoitskloof, *Drège*. (*hab. s. sp.*)

Flores præcedentibus minores, pallidi, maculati.

5. Schizodium obliquum.

S. sepalis linearibus acutis lateralibus longioribus calcare horizontali fili-

formi obtuso, petalis brevissimis inæqualiter bidentatis auriculâ baseos semiliberâ rotundatâ subserratâ, labello basi puberulo epichilio ovato acuminato.

Hab. ad *Cap. B. Spei, Forbes.* (*hab. s. sp. comm. Hort. Soc. Lond.*)

6. Schizodium clavigerum.

S. sepalis petalisque ovato-lanceolatis acutis planis calcare clavato ascendente, petalis bidentatis sepalo duplò brevioribus dente altero rotundato basi oblique tortis auriculâ semiliberâ integerrimâ, labello filiformi recto carnoso basi lineari membranaceo sepalis longiore.

Hab. ad *Cap. B. Spei,* inter Paarl et Groenekloof, *Drège.* (*hab. s. sp.*)

Flores omnium minimi.

7. Schizodium rigidum.

S. caule basi tantùm flexuoso, sepalis petalisque linearibus acutis subæqualibus calcare filiformi obtuso, petalis linearibus acutè bidentatis sepalis brevioribus, epichilii dimidiâ inferiore oblongâ membranaceâ ascendente superiore carnosâ tereti reflexâ.

Hab. ad *Cap. B. Spei,* prope Buffeljagtrivier, *Drège.* (*hab. s. sp.*)

Flores maximi generis exceptis *S. Flexuosi,* haud satis examinavi; exemplar unicum tantum possideo biflorum.

8. Schizodium inflexum.

S. foliis obovatis longè petiolatis, caule unifloro vaginis acutis arctè appressis, sepalis oblongo-linearibus obtusis calcare conico elongato, petalis obliquè tortis apice rostratis emarginatis carnosis sepalo brevioribus basi obsoletè auriculatis, epichilio oblongo concavo apice carnoso abruptè rostrato.

Disa inflexa. *Mundt in hb. Lehm.*

Hab. ad *Cap. B. Spei, Mundt, Hesse, Burchell* (655). (*hab. s. sp. comm. cell Burchell et Grisebach.*)

Sequenti simile, sed characteribus indicatis benè distinguendum.

9. Schizodium maculatum.

S. caule unifloro vaginis caulis laxis obtusis (maculatis), sepalis lateralibus oblongo-linearibus intermedio dorso conico, "petalis linearibus, labello lanceolato obtuso."

D. maculata. *Linn. Suppl. p.* 407. *Thunb. Fl. Cap. ed. Schultes,* 14.

Hab. ad *Cap. B. Spei,* prope Winterhoek, in Rodesand sub præruptis montium lateribus, florens Octobri, Thunberg. (*v. s. sp. in hb. Vahl.*)

Vaginæ caulis membranaceæ, rufo-maculatæ. Flos cæruleus. *Thunb.*

Of this very distinct species I have only seen one specimen in Vahl's herbarium. It was glued to paper, and not susceptible of being examined as to the interior structure of the flower. Thunberg's description appears to be a good one.

CCII. PENTHEA.

Penthea. *Lindl. Nat. Syst. Bot. ed.* 2, *p.* 446.

Perianthium ringens. Sepala membranacea, libera, æqualia aut inæqualia,

intermedio ecalcarato sæpiùs diversiformi. Petala antheræ utrinque adnata, sæpiùs carnosa, sepalis dissimilia. Labellum lineare, simplex, liberum, petalis multò angustius, a columnâ stigmato sæpius trilobo sejunctum. Anthera terminalis, erecta v. reclinata, loculis parallelis, basi productis et sæpiùs divergentibus, brachiis totidem stigmatis incumbentibus. Glandulæ duæ, nudæ.———Herbæ Capenses, foliis vaginæformibus aut angustissimis radicalibus planis, floribus corymbosis aut spicatis, nunc solitariis geminisve.

Disâ differt sepalo altero ecalcarato.

1. Penthea melaleuca.

P. foliis lineari vel oblongo-lanceolatis, vaginis caulis acuminatis patulis, corymbo denso multifloro, sepalis patentibus oblongis obtusis æqualibus, petalis oblongis basi et apice denticulatis, labello lineari-oblongo apiculato pone basin utrinque obsoletè dentato.

Disa melaleuca. *Thunb. Fl. Cap. ed. Schultes*, 16.
Serapias melaleuca. *Id. Prodr.* 3.
Ophrys bivalvata. *Linn. Suppl.* 403.

Hab. ad *Prom. B. Spei, Burchell* (no. 6855); in planitie frontis Montis Tabularis, et locis depressis juxta Hexrivier, Thunberg; in Dutoitkloofsbergen, et Cederbergen, *Drège*. (*hab. s. sp.*)

Exemplar olim vidi in herbario Vahliano, nunc in museo Hafniensi conservato, nomine Satyrii hiantis notatum, quod corymbo magis contracto, sepalis lateralibus ovatis apice carnosis obtusis intermedio lanceolato acuto membranaceo differre videbatur; an species diversa, an varietas nescio.

2. Penthea obtusa.

P. foliis . . . . , vaginis inflatis erectis acutis, corymbo denso contracto, sepalis æqualibus obovatis obtusissimis concavis subæqualibus, petalis labelloque emarginato cuneatis membranaceis.

Disa Richardiana. *Lehm. MSS.*

Hab. ad *Prom. B. Spei, Ecklon.* (*hab. s. sp. comm. cel. Lehmann.*)

Palmaris, glaberrima. Bracteæ obovatæ, concavæ. Species distinctissima.

3. Penthea filicornis.

P. foliis setaceis, vaginis foliaceis acuminatis patulis, spicâ ovatâ multiflorâ, sepalo supremo erecto subsessili oblongo galeato apiculato lateralibus oblongis basi obliquis, petalis linearibus falcatis obtusis, labello setaceo.

Disa filicornis. *Thunb. Fl. Cap. ed. Schultes*, 17.
Disa patens. *Swartz Act. Holm.* 1800, *p.* 214.
Orchis filicornis. *Linn. Suppl.* 400.

Hab. ad *Prom. B. Spei, Ecklon*; ad Lowryspas, et in montibus prope Liefde, *Drège*.; in ericetis humidis prope Wynberg, Sinum Falsum versus et Stellenbosch, *Harvey*. (*hab. s. sp.*)

Flores purpurascentes.

4. Penthea reflexa.

P. foliis lineari-setaceis carnosis, vaginis foliaceis acuminatis patulis, spicâ ovatâ multiflorâ, sepalo supremo unguiculato cordato subrotundo concavo reflexo lateralibus ovato-oblongis basi inæqualibus, petalis falcatis linearibus obtusis antherâ longioribus, labello setaceo-filiformi pendulo.

Hab. ad *Prom. B. Spei*, *Hesse*; in Outniqualand, *Drège*. (*hab. s sp.*)
Similis *P. filicorni*; an mera varietas?

5. Penthea patens.

P. foliis infimis setaceis superioribus vaginisque latioribus acuminatis, corymbo uni-multifloro patulo, sepalo supremo subrotundo cordato acuto lateralibus ovatis acuminatis basi angulo ferè recto obtuso productis, petalis ovatis acutis obtusisque antheræ subæqualibus.

Disa patens. *Thunb. Fl. Cap. ed. Schultes*, 16.
Serapias patens. *Id. Prodr.* 3.
Ophrys patens. *Linn. Suppl.* 404.
Disa tenuifolia. *Swartz Act. Holm.* 1800, *p.* 214.

Hab. ad *Prom. B. Spei*, *Hesse*, *Burchell* (no. 656); in planitie frontis, in summo cacumine Tafelberg, Thunberg; etiam ad Dutoitskloof, *Drège*. (*hab. s. sp.*)

CCIII. FORFICARIA.

Perianthium concavum, ringens. Sepala libera, concava, intermedio mutico majore antico lateralia æstivatione imbricante. Petala libera, subulata æstivatione abruptè bis flexa. Labellum carnosum, truncatum, liberum, nanum. Anthera reclinata, loculis parallelis, approximatis, glandulis duabus triangularibus imbricantibus nudis; stigmate adnato excavato simplici.

Genus Pentheæ galeâ muticâ accedens, æstivatione, anthera labelloque facilè distinguendum.

1. Forficaria graminifolia.

Hab. ad *Cap. B. Spei*, ad Dutoitskloof, *Drège*. (*hab. s. sp.*)

Planta *Disæ laceræ barbatæque* facie. Folia rigida, linearia, acutissima, caule breviora. Racemus laxus, 8-10-florus, bracteis membranaceis acuminatissimis ovario brevioribus. Sepalum intermedium cymbiforme, lateralibus acutis carinatis majus, glabrum, membranaceum. Petala setacea, genuflexa, hirsuta. Labellum carnosum, truncatum, pubescens, antherâ brevius.

CCIV. HERSCHELIA.

Perianthium patens. Sepalum supremum galeatum, inflatum, dorso calcaratum, lateralibus majus. Petala sub galeâ abscondita, carnosa, collateralia, basi auriculata, apice dolabriformia, columnâ duplò longiora. Labellum oblongum, carnosum, integerrimum. Columna nana, bipartita (stigmate antherâque sejunctis.) Stigma carnosum, elevatum, concavum, basi labelli situm. Rostellum tripartitum, laciniis lateralibus angustioribus acuminatis; appendice dorsali, lineari, bilobo, utrinque tuberculato ante antheram sito. Anthera horizontalis, loculis parallelis, abbreviatis; glandulis duabus maximis truncatis corneis dentatis. ——— Herba Capensis radicibus tuberculiformibus. Folia setacea. Flores pauci, magni, speciosi.

Herschelio filio, *astronomo celeberrimo, patriæ suæ decori, Orchidacearum Ca-*

pensium indagatori felici, species hæc pulcherrima colore cœli australis intensè cæruleo superbiens sit sacra.

The structure of the column of this beautiful plant is very singular, and not to be well understood without better materials for examination than I have procured. A single flower is all that I have been able to analyse. The appendix at the back of the rostellum, between it and the anther, is very remarkable.

1. Herschelia cœlestis.

Disa graminifolia. *Ker in Brande's Journal, Vol. VI. p.* 44. *t.* 1. *f.* 2

Hab. ad *Cap. B. Spei, Masson, Burchell,* nos. 7801, 7372; in sabuletis inter plantas junceas scirpoideasque duras luxurians, *Herschel.* (*exam. s. sp. in herb. Burchell.*)

Caulis gracilis, sesquipedalis, squamis 2-3 acutissimis arctè appressis vaginatus. Folia setacea. Racemus 4-6-florus. Flores magni intensè cærulei, labello oblongo basi pallido supra medium purpurascente. Galea inflata, subrotunda, calcare brevi obtuso ascendente supra basin.

CCV. BRACHYCORYTHIS.

Perianthium obliquum, subglobosum. Sepalum supremum muticum, convexum, lateralibus liberis multò minus. Petala ovata, obtusa, erecta, basi obliqua, medio carnosa, sepalo supremo duplò majora, sepalis lateralibus duplò minora. Labellum sepalis lateralibus majus, coriaceum, basi cavum, apice dilatatum 3-dentatum. Anthera reclinata, bilocularis, pedicellata, stigmati maximo ovali intra cavitatem labelli abscondito adnata; glandulis 2, nudis.———Herba capensis, foliosa, floribus inter folia superiora axillaribus.

Genus ab omnibus huc usque notis structurâ labelli, perianthio valdè obliquo galeâque muticâ distinctum.

1. Brachycorythis ovata.

Hab. ad *Cap. B. Spei,* inter Omsamwabo et Omsamcabe, *Drège.* (*exam. s. sp. in herb. cel. Dregei*)

Caulis pedalis et ultra, foliis magnis ovatis acutis densè imbricatis vestitus. Flores axillares inter folia superiora iisque breviores. Labellum posticum, coriaceum, basi inflatum Stanhopeæ more, sulcatum, ultra cavitatem in lobum cuneatum tridentatum productum. Planta siccatione nigrescit.

CCVI. CERATANDRA.

Perianthium bilabiatum. Sepalum supremum et petala in galeam (sæpiùs anticam pendulam) agglutinata; lateralia patula libera. Labellum unguiculatum, lunatum, faciei columnæ adnatum, nudum, vel appendice carnoso apice libero auctum. Columna hippocrepica. Anthera resupinata, loculis distantibus brachiis stigmatis adnatis; glandulis nudis. Stigma parvum, trilobum, in sinu brachiorum, verticale.———Herbæ capenses, siccatione nigrescentes, foliis lineari-setaceis basi dilatatis caulem totum vestientibus. Radices fasciculatæ, longæ, carnosæ, tomentosæ. Flores densè spicati.

1. Euceratandra. *Stigmatis brachia angusta, distantia, omninò ferri equini formâ* (Hippopodium, *Harvey, MSS.*).

* *Labello appendiculato.*

1. CERATANDRA chloroleuca. *Ecklon in herb. Lehm. Bauer's Illustr. Genera, tab.* xvi

C. foliis ciliatis, spicâ cylindraceâ, sepalis lateralibus basi æqualibus, labello longè unguiculato lunato acuto; appendice dentato subquadrato.

Pterygodium atratum. *Swartz in Act. Holm.* 1800, 217. *Thunb. Fl. Cap. ed. Sch.* 24.
Ophrys atrata. *Linn. Mant.* 121.

Hab. ad *Cap. B. Spei;* in arenosis Swartlandiæ, Thunberg, florens Sept. Oct.; Paarlberg et Dutoitskloofbergen, *Drège.* (*hab. s. sp.*)

Caulis palmaris et minor ad sesquipedalem. Sepala viridia, purpureo striata. Petala, labellum et columna lutea. Appendix fuscus.

Mr. Harvey distinguished this plant from Pterygodium in a letter to Sir W. Hooker under the expressive name of Hippopodium (atratum); but I had already received it from Prof. Lehmann, with Ecklon's name of Ceratandra, which priority requires that I should adopt. The specific name atratum is best suppressed, as it is common to the whole genus, and the black colour when dried is one of the marks by which it is generally distinguished from Pterygodium. Thunberg describes his P. atratum as having a crenulated labellum; but I have seen no specimen which answers to that description.

2. CERATANDRA auriculata.

C. foliis ciliatis, spicâ cylindraceâ, sepalis lateralibus basi auriculatis, labello longè unguiculato lunato obtuso; appendice integerrimo subrotundo.

Hab. ad *Cap, B. Spei, Burchell,* no. 6900, *Thom* in hb. Hooker. (*hab. s. sp. comm. cel. Burchell.*)

Præcedenti simillima.

* * *Labello nudo.*

3. CERATANDRA globosa.

C. foliis scabriusculis supremis minoribus, spicâ subglobosâ, petalis cordato-ovatis acutis, labello nudo subrotundo-ovato breviter unguiculato.

Hab. ad *Cap. B. Spei;* in Dutoitskloofbergen et Cederbergen, *Drège.* (*hab. s. sp.*)

4. CERATANDRA parviflora.

C. foliis margine scabriusculis supremis minoribus, spicâ subglobosâ, petalis margine anteriore in angulum obtusum productis, labello nudo transverso rhomboideo angulis acutis ungue cuneato.

Hab. ad *Cap. B. Spei, Burchell* no. 560. (*hab. s. sp. comm. cel. Burchell.*)

Præcedenti similis sed flores duplò minores et forma partium diversa.

5. CERATANDRA grandiflora.

C. foliis margine pilosis supremis minoribus, spicâ densissimâ oblongâ, petalis semicordatis basi cucullatis, labello nudo subrotundo cordato subsessili.

Hab. ad *Cap. B. Spei;* in Zuurebergen, *Drège.* (*hab. s. sp.*)

A beautiful species, with deep yellow flowers twice as large as those of any other.

2. Evota. *Stigmatis brachia dilatata, conniventia, galeæ speciem formantia* (Calota, *Harvey, MSS.*).

6. Ceratandra Harveyana.

C. foliis linearibus acuminatis involutis, spicâ paucflorâ laxiusculâ, bracteis ovatis acutis convexis, petalis cuneatis rotundatis unguiculatis margine crispis, labello sagittato appendice rhomboideo carnoso integro.

Hab. ad *Prom. B. Spei,* in locis udis "Flats" dictis inter Wynberg, et False Bay, rarò florens Novembr. *Harvey.*

I only know this curious plant from a drawing and description by Mr. Harvey, in the possession of Sir W. Hooker. It is represented as growing about six inches high, with green sepals, and all the other parts of the flower yellow. The dilatation of what I presume to be either the arms of the stigma or the rostellum, is very remarkable, and led Mr. Harvey to consider it distinct from Ceratandra and Pterygodium, naming it Calota capensis; but it is in all other circumstances, so far as I can judge from the drawing, as well as in habit, so entirely a Ceratandra that I do not think it expedient to separate it. It forms however a good section of this genus, for which the name Calota might have been retained if we had not already a Calotis, and for which that of Evota, a word with the same meaning, has been substituted.

CCVII. OMMATODIUM.

Perianthium ringens. Sepalum supremum et petala inæqualiter lobata apice fornicata in galeam agglutinata; lateralia patula libera. Labellum hastatum, sessile, columnæ adnatum, appendice membranaceo tubuloso auctum. Columna membranacea, truncata. Anthera erecta, loculis distantibus, subparallelis, basi truncatis; glandulis nudis. Stigma horizontale, brachiis incurvis.——Herba radicibus testiculatis, Aceratis habitu.

This genus is essentially different from Pterygodium in its anther being perfectly erect, and very much like that of a Platanthera. Its name is taken from the eye-like spots on the labellum.

1. Ommatodium Volucris.

Pterygodium Volucris. *Swartz Act. Holm.* 1800, *p.* 218. *Thunb. Fl. Cap.* 22. *Ker in Brande's Journal, vol.* 9, *t.* 4, *f.* 1.
Ophrys Volucris. *Linn. Suppl.* 403.
Ophrys triphylla. *Thunb. Prodr.* 2.

Hab. ad *Cap. B. Spei;* in collibus prope Mosselbanksrivier, Paardeberg, Rebeeks-casteel, florens Sept. Oct., Thunberg. (*hab. s. sp. comm. cel. Lehmann et Hooker.*)

Folia 2-3, cordata, ovata, basi amplexicaulia; supremo floribus distante, multò minore. Spica elongata, multiflora. Petala semiobovata biloba; laciniâ interiore minimâ obtusâ. Labellum hastatum, ovatum, acuminatum, membranaceum, deflexum; angulis posticis in limbum incurvis

eique adnatis. Appendix tubulosus, membranaceus, unilabiatus, valdè obliquus; labio antico producto integerrimo.

CCVIII. PTERYGODIUM.

Pterygodium. *Swartz Act. Holm.* 1800, 217.

Perianthium fornicatum. Sepalum supremum et petala maxima indivisa concava in galeam sæpius posticam agglutinata; lateralia libera, patentia. Labellum sessile, faciei columnæ adnatum, basi appendice magno (stigmate tertio sterili?) linguæformi, erecto, vel supra dorsum antheræ inflexo, auctum. Anthera resupinata, loculis distantibus abbreviatis stigmatis brachiis incurvis tortis adnatis; glandulæ nudæ. Stigma lineare, transversum, basi appendicis labelli inter illum et antheram, utrinque in brachium productum.———Herbæ radicibus testiculatis, caule folioso, foliis oblongis basi vaginantibus, floribus solitariis aut racemosis.

1. Pterygodium platypetalum.

P. caule tenui 1-2-phyllo, foliis linearibus, floribus subsolitariis, ovario subrotundo, petalis latissimis truncatis extùs rotundatis, labello minimo trilobo lobis lateralibus rotundatis integerrimis intermedio majore acuto, appendice trilobo margine integro.

Hab. ad *Cap. B. Spei*; in Mont. Dutoitskloof, *Drège*. (*hab. s. sp.*)

Herba gracilis, digitalis vel palmaris. Flores *P. catholico* similes. Glandula parva nigra in centro utriusque lobi lateralis labelli.

2. Pterygodium catholicum. *Swartz l. c. Thunb. Fl. Cap. ed. Sch.* 22. *Brande's Journal, vol.* 6, *t.* 1, *f.* 3.

P. caule subdiphyllo, foliis oblongis obtusis, floribus geminis aut racemosis, petalis hinc rectiusculis inde rotundatis cordatis, labello minimo ovato acuto crispo, appendice acuminato utrinque unidentato supra dentes sulcato et serrato.

Ophrys catholica. *Linn. Sp. Pl.* 1344.
Ophrys alaris. *Linn. Suppl.* 404.
Arethusa alaris. *Thunb. Prodr.* 3.

Hab. ad *Cap. B. Spei*; juxta et extra urbem Cap, et in Swartland, florens Aug. Sept., Thunberg; Gnadenthal, *Drège*. (*hab. s. sp.*)

3. Pterygodium acutifolium.

P. caule subdiphyllo, foliis oblongis acutissimis, floribus racemosis, petalis hinc rectiusculis inde rotundatis cordatis, labello minimo ovato acuto undulato, appendice acuminato integerrimo apice sulcato.

Hab. ad *Cap. B. Spei, Ecklon, Harvey*; Dutoitskloof, *Drège*. (*hab. s. sp.*)

A very distinct species resembling *P. catholicum*, from which it is immediately distinguished by its darker coloured flowers, taller stems, and acute leaves.

4. Pterygodium alatum. *Swartz l. c. Thunb. Fl. Cap.* 24. *Brande's Journal, vol.* 8, *t.* 3, *f.* 2.

P. caule folioso, foliis canaliculatis acutis, floribus densè racemosis, petalis

hinc rectiusculis inde rotundatis, labello dilatato trilobo laciniis lateralibus crenatis intermediâ minimâ acutâ, appendice carnoso obtuso repando infra apicem bifoveato.

Ophrys alata. *Thunb. Prodr.* 2.

Hab. ad *Cap. B. Spei*; prope urbem, Thunberg; Kleindraakenstein et Breederivier, *Drège*. (*hab. s. sp.*)

5. Pterygodium caffrum. *Swartz, l. c. Thunb. l. c.*

P. caule folioso, foliis inferioribus oblongo-ovatis cucullatis, floribus racemosis, petalis cuneatis hinc rectis inde rotundatis, labello dilatato bilobo laciniis rotundatis integerrimis mucronulo interjecto, appendice oblongo ovato membranaceo sub apice excavato.

Ophrys caffra. *Thunb. Prodr.* 2.

Hab. ad *Cap. B. Spei*; prope Montem Paarl in arenosis depressis, inque monte Paardeberg et ejus depressis arenosis, florens Oct., Thunberg. (*hab. s. sp. comm. cel. Drège.*)

6. Pterygodium carnosum.

P. foliis subdistichis ensiformibus acuminatissimis canaliculatis, floribus densè spicatis carnosis, petalis obovatis pubescentibus concavis cum sepalo intermedio galeam formantibus, sepalis lateralibus latè ovatis obtusis, labello transverso emarginato subsessili appendice uncinato carnoso integro subtus excavato.

Hab. ad *Cap. B. Spei*, in Dutoitskloofbergen, *Drège*. (*hab. s. sp.*)

Vix pedale, siccatione nigerrimum. Folia *Corycii orobanchoidis*.

7. Pterygodium venosum.

P. foliis lineari-lanceolatis convolutis caulem vestientibus, spicâ densâ cylindraceâ, sepalis ovatis concavis æqualibus, petalis cuneatis serratis, labello subrotundo-cordato serrato, appendice minimo labello adnato excavato, rostello bialato alis lanceolatis reflexis.

Hab. ad *Cap. B. Spei*. (*hab. s. sp. comm. cel. Reeves et v. s. sp. in herb. Hooker et Lambert.*)

It is very singular that this remarkable species should not appear in any of the collections of Hesse, Ecklon, Drège, or Harvey. One specimen exists in Mr. Lambert's Herbarium; another in Sir W. Hooker's, without locality, and my own is probably a cultivated one, having been obtained by Mr. Reeves from Villet, the Cape nurseryman.

8. Pterygodium inversum. *Swartz, l. c. Thunb. l. c. Brande's Journal, vol.* 9, *t.* 4, *f.* 1.

P. foliis subdistichis lanceolato-ensiformibus, floribus densè spicatis, petalis inversis oblongis hinc rectiusculis, labello parvo unguiculato rotundato postico, appendice linguæformi erecto emarginato anticè bilamellato.

Ophrys inversa. *Thunb. Prodr.* 2.

Hab. ad *Cap. B. Spei*; in Swartland, infra Rebeck-Casteel, inque regionibus Picketberg, florens Sept. Oct., Thunberg; prope Breederivier, *Gill* in hb. Hooker; inter Groenekloof et Saldanha bay, necnon in Camiesbergen, *Drège*. (*hab. s. sp.*)

Caulis ferè 2-pedalis, crassus, densè foliosus. Spica densissima, foliosa. Capsula in collum longum incurvum producta.

CCIX. CORYCIUM.

Corycium. *Swartz Act. Holm.* 1800, *p.* 220.

Perianthium clausum, hians. Sepala membranacea, angusta, erecta; intermedio nunc libero, nunc petalis in galeam agglutinato, lateralibus connatis. Petala 2, concava vel saccata, sepalis difformia, carnosa, libera. Labellum faciei columnæ adnatum, integrum, nunc muticum, sæpiùs appendice maximo simplici vel bilobo auctum. Anthera dorsalis, resupinata; loculis nunc parallelis approximatis, nunc longissimè distantibus, divaricatis, stigmatis expansione quasi divulsis. Glandulæ nudæ. Stigma angustum, inter basin labelli et connectivum; rostello trilobo, lobo medio connectivi formâ eique appresso, lateralibus linearibus adnatis aut divergentibus.———Herbæ terrestres Capenses, radicibus testiculatis. Caules foliosi. Folia sæpiùs undulata, basi vaginantia. Flores densè spicati.

Columnæ structura varia in variis speciebus.

§ 1. *Labellum inappendiculatum.*

1. Corycium crispum. *Swartz, l. c. Thunb. Fl. Cap. ed. Schultes, p.* 21.

C. foliis undulatis margine crispis, spicâ laxiusculâ, petalis truncatis saccatis cum sepalo agglutinatis, labello obovato retuso basi nudo.

Arethusa crispa. *Thunb. Prodr.* 3.
Orchis coccinea, foliis serratis in capreolum abeuntibus. *Buxb. Cent.* 3, *p.* 7, *t.* 11.

Hab. ad *Cap. B. Spei*; in arenosis prope Cap, in Groene Kloof et Swartland, florens Sept. Oct., Thunberg, *Drège, Ecklon.* (*hab. s. sp.*)

Antheræ loculi anticè sub labello approximati. Stigmatis brachia incurva, apice dilatata quasi petaloidea.

§ 2. *Labellum basi appendice* (*stigmate sterili ?*) *auctum.*

2. Corycium bicolor. *Swartz, l. c. Thunb. l. c. Lindley in Bauer's Illustrations, Genera, t.* 15. *Ker in Brande's Journal,* 6, *t.* 1, *f.* 1.

C. foliis margine crispatis, spicâ densissimâ cylindraceâ, petalis ovatis concavis versus sepalum supremum tortis, labello bilobo sessili, appendice cordato-ovato subtùs carinato.

Ophrys bicolor. *Thunb. Prodr.* 2.

Hab. ad *Cap. B. Spei,* Thunberg, *Burchell* (no. 6605). (*hab. s. sp. comm. cel. Burchell.*)

Spicâ densissimâ cylindraceâ et floribus parvis statim dignoscitur.

3. Corycium excisum.

C. foliis linearibus convolutis basi dilatatis, spicâ densâ oblongâ, petalis truncatis concavis inflexis, labello longè unguiculato bilobo basi carnoso appendice cordato subrotundo emarginato.

Hab. ad *Cap. B. Spei,* inter Pikenierskloof et Olifantrivier, *Drège.* (*hab. s. sp. et v. s. sp. in herb. Hooker a cl. Harvey lectum.*)

Spica C. bicolor simulat, sed flores majores. Folia angustissima. Statura variat a digitali in pedalem.

4. Corycium microglossum.

C. foliis e basi latissimâ vaginante in acumen productis, spicâ oblongâ, petalis liberis cuneato-subrotundis concavis pubescentibus, labello lineari lanceolato integerrimo, appendice ovato emarginato.

Hab. ad *Cap. B. Spei*, in Paarlberg, *Drège*. (*hab. s. sp.*)

Sesquipedalis. Flores extus pubescentes. Spica fere semipedalis, densa, multiflora. Appendix carnosus, glaberrimus, erectus, incurvus. Antheræ loculi minimi et stigmatis brachia divaricatissima. Rachis et bracteæ scabræ.

5. Corycium orobanchoides. *Swartz, l. c. Thunb. l. c. Ker in Brande's Journal, vol. 8, t. 3, f. 3 ? ? (caricatura). Lindl. in Bot. Reg.* 1838, *t.* 45.

C. foliis ensiformibus carinatis basi vaginantibus, spicâ cylindraceâ v. ovali densiflorâ, petalis saccatis cum sepalo intermedio agglutinatis, labello deflexo bilobo, appendice reflexo bipartito laciniis acuminatis.

Satyrium orobanchoides. *Linn. Suppl.* 402.

Hab. ad *Cap. B. Spei*, vulgaris; in arenosis Thunberg. (*hab. s. sp. et v. v. c.*)

6. Corycium vestitum. *Swartz, l. c. Thunb. l. c.*

C. foliis oblongis cucullato-vaginantibus venoso-reticulatis, spicâ cylindraceâ densâ, sepalo supremo angusto concavo apice latiore obtuso exciso cum petalis ovatis ventricoso-saccatis cohærente, labello dilatato obtuso exciso, appendice reflexo bipartito laciniis lanceolatis obtusis deflexis.

Ophrys volucris. *Thunb. Prodr.* 2.

Hab. ad *Cap. B. Spei*, in dunis prope Picketberg, et Verbooren Valley, Thunberg.

The above character is taken from Thunberg whose description shews this, to me unknown, species to be very distinct. It seems near *C. orobanchoides*. There is nothing like it in the collections of Burchell, Hesse, Harvey, Ecklon, Drège, Thom, Gill, or Forbes!

CCX. DISPERIS.

Disperis. *Swartz, Act. Holm.* 1800, *p.* 218. Dryopeia. *Thouars, Orch. Afr. t.* 1-3. Dipera. *Spreng. Syst.* 3, 696.

Perianthium ringens. Sepalum supremum cum petalis in galeam cohærens; lateralia saccata, patentia, libera, aut connata. Labellum unguiculatum, faciei columnæ adnatum, inter lobos antheræ ascendens, appendice sæpiùs apice villoso supra columnam inflexo. Anthera resupinata, vel supina, imò erecta; glandulis nudis. Stigma angustum, transversum, divaricatum, brachiis duobus cartilagineis sæpè contortis. ———Herbæ pusillæ Capenses, Mascarenses, Zeylanicæ, sæpiùs villosæ, caulibus apice unifloris aut paucifloris mono-diphyllis. Radices testiculatæ et tuberosæ.

The genus Dryopeia of Thouars appears to me distinguishable from Disperis by no certain character, nor even by habit, for *D. micrantha* is an intermediate form between the Cape and Mascarenian species. The

union of the lateral sepals loses its value by means of *D. tripetaloides* in which they are separate; the want of an appendage to the lip, which is a character of *D. oppositifolia*, is of no importance because of the presence of an appendage in *D. tripetaloides*, and moreover the genus *Ceratandra* forbids us to attach consequence to this circumstance. If the structure of *Dryopeia* were really such as is described by Ach. Richard, it would doubtless be a genus perfectly distinct from *Disperis*; but I presume there is some error in the description published by that learned botanist.

§ 1. *Labellum appendice auctum.*

1. DISPERIS capensis. *Swartz, l. c. Thunb. Fl. Cap. ed. Sch.* 25. *Ker in Brande's Journal. v. t.* 1. *f.* 2.

D. caule apice glabro basi patentìm piloso, foliis linearibus accuminatis apice setaceis, floribus solitariis, sepalis omnibus liberis glabris acuminatissimis, labello lineari-lanceolato appendice pone apicem acuminato utrinque dentato.

Arethusa capensis. *Linn. Suppl.* 405.

Hab. ad *Cap. B. Spei*; in Leuwekop, in collibus infra Tafelberg et urbem, inque summitate montis Tabularis, Thunberg; *Burchell* 8527; Ruigtevalei, *Drège*. (*hab. s. sp.*)

Sepala patentissima, acuminatissima, lateralia pone basin, supremum sub apice saccatum, petalorum margini arctissimè agglutinatum. Petala subcucullata, oblonga, obtusa, margine posteriore subrhomboidea, leviter pubescentia. Labellum lineare, spatulatum, apici columnæ flexurâ sigmoideâ adnatum, apice membranaceum acuminatum reflexum, sub apice subtuberculatum appendice brevi lanceolatâ lacerâ. Anthera erecta, bilocularis, ad dorsum sita stigmatis maximi membranacei rhomboidei: processibus spiraliter tortis cartilagineis acuminatis.

2. DISPERIS secunda. *Swartz, l. c. Thunb. l. c. Ker. l. c.* 5. *t.* 1. *f.* 3.

D. foliis linearibus, racemo laxo folioso secundo, sepalis lateralibus divaricatissimis unguiculatis saccatis (sacco basi obtuso calloso), labello cordato-ovato acuminato apice cucullato, appendice lineari apice villoso.

Orchis circumflexa. *Linn. Sp. Pl.* 1344.
Arethusa secunda. *Thunb. Prodr.* 3.

Hab. ad *Cap. B. Spei*; prope urbem, florens Aug. et mens. seq. Thunberg; in Draakensteensbergen, *Drège*. (*hab. s. sp.*)

Petala galeæ agglutinata, rhomboidea, angulo externo obtuso. Labellum ovatum, acuminatum, complicatum, apice saccatum, appendice longo filiformi apice villoso intra galeam intruso desinente. Processus stigmatici inter membranaceam et cartilagineam, obtusi. Flores ochroleuci.

3. DISPERIS micrantha.

D. caule debili 1-3-floro diphyllo, foliis cordatis amplexicaulibus glabris, sepalis aristatis lateralibus multò minoribus medio saccatis, labello sagittato appendice lineari apice dilatato rotundato villoso.

Hab. ad *Cap. B. Spei, Mund.* (*hab. s. sp. comm. cel. Hooker.*)

Species omninò Dryopeiarum Mascarensium facie.

4. Disperis tripetaloidea.

D. caule erecto 2-4-floro, foliis cordato-oblongis acutis, sepalis glabris lateralibus pendulis sessilibus basi imâ connatis pone basin foveatis, labello filiformi pubescente apice dilatato-rotundato appendice minimo concavo.

Dryopeia tripetaloidea. *Thouars l. c. t.* 3. *A. Rich. l. c.*

Hab. in *Borbonia,* Commerson ; *Zeylonâ,* prope Rambodde et Phoosalowe, *Walker. (v. ic. pict. zeylan. in hb. Hooker.)*

I have seen no specimens lately of this plant, but it appears to be identical with a species found in Ceylon by Mrs. Cummin, the daughter of Colonel Walker, from whom the botany of Ceylon has received so many illustrations. The latter has pretty pink flowers.

5. Disperis cordata. *Swartz, l. c.*

D. caule erecto bifloro, foliis cordatis acutis, sepalis lateralibus semiconnatis, (labello bilobo appendice recurvo clavato.)

Dryopeia discolor. *Thouars, l. c. t.* 2. *A. Rich. l. c.* 36.

Hab. in *Mauritio.*

I have seen no specimens of this, and am unable, from Thouars' figure, to form any exact opinion concerning the structure of the labellum. A. Richard calls it " cruciatum."

§ 2. *Labellum muticum.*

6. Disperis villosa. *Swartz, l. c. Thunb. l. c. Ker, l. c.* 6, *t.* 1, *f.* 5.

D. undique pubescens, caule erecto apice 1-multifloro basi diphyllo, folio inferiore ovato-oblongo petiolato superiore acuminato complicato basi vaginante, sepalis lateralibus divaricatis sub apice gibboso-saccatis, labello lineari apice latiore acuminato supra columnam incurvo basi bicalloso, bracteâ flore breviore.

Arethusa villosa. *Linn. Suppl.* 403.

Hab. ad *Cap. B. Spei ;* in collibus prope urbem, florens Aug. Sept., Thunberg ; in Draakensteenbergen, necnon prope Bergrivier et Paarl, in collibus, *Drège. (hab. s. sp.)*

7. Disperis cucullata. *Swartz, l. c. Ker, l. c.* 6, *t.* 1, *f.* 4.

D. caule erecto diphyllo unifloro foliisque oblongis basi vaginantibus superiore angustiore subtùs pubescentibus, floribus glabris, sepalis lateralibus divaricatis acutis medio acutè saccatis, bracteâ flori æquali vel longiore.

Hab. ad *Cap. B. Spei, Forbes ;* in Paarlberg, *Drège. (hab. s. sp.)*

Priori similis, sed flores majores, et folia omninò diversa. Quatuor tantum exemplaria vidi, omnia uniflora. Labelli fabricam haud determinavi.

8. Disperis oppositifolia. *Smith in Rees.*

D. glabra, caule diphyllo unifloro vel apice corymboso, foliis ovatis sessilibus suboppositis, sepalis lateralibus foveatis unguiculatis ultra sacculos connatis, labello unguiculato bilobo pubescente : laciniis linearibus divaricatis.

Dryopeia oppositifolia. *Thouars, Orch. Afr. t.* 1. *Ach. Rich, Orch. Maurit. p.* 35.

Hab. in *Borbonia,* et *Mauritio.* (*exam. s. sp. in hb. Lehm. et Hooker.*)

The description of this plant given by Ach. Richard in the place above quoted is at variance with this character; but it appears to me that he has fallen into some errors in his account of the structure of the species. The petals, which he calls "minima," I find as long as the upper sepal and pressed close to it; the divaricating and lengthened bases of the anther are, I presume, the cartilaginous arms of the stigma.

CCXI. OPHRYS.

Ophrys. *Swartz, Act. Holm.* 1800, *p.* 222, *t.* 3, *f. D.* *R. Brown in Hort. Kew.* 5. 195. *Richard, Orch. Eur. annot. p.* 26.

Perianthium explanatum, regulare; petalis nanis. Labellum dependens, convexum, integrum vel trilobum, sæpiùs villosum, nunc callis vel cornibus 2 prope basin munitum, ecalcaratum. Columna erecta, libera, sæpiùs acuminata; antherâ anticâ, loculis parallelis basi approximatis. Pollinia 2; caudiculis totidem cucullis distinctis inclusis. Stigma e facie columnæ excavatum.———Herbæ Europææ, Asiaticæ, et Mauritanicæ, radicibus testiculatis.

Of this beautiful genus I give little more than a catalogue; for I find it impossible to ascertain from dried specimens (the only materials a botanist resident in this country can have) the limits of the species, or the nature of the variation to which they are subject.

§ 1. Muticæ. *Labello basi mutico.*

1. **Ophrys** vespifera. *Willd. Sp. Pl.* 4. 65.

O. labello mutico glaberrimo trilobo: lobis rotundatis medio emarginato, caule paucifloro.

O. insectifera D. glaberrima. *Desf. Atl.* 2, 321.
O. glabra. *Pers. Syn.* 2, 510.

Hab. in *Barbaria,* Desfontaines.

This appears to be well distinguished by its smooth lip. It must not be confounded with the *O. vespifera* of Swartz, which is *O. lutea.*

2. **Ophrys** lutea. *Cav. ic.* 2. 46. *t.* 160. *Willd. Sp. Pl.* 4. 70. *Hooker exot. fl. t.* 10. *Rchb. ic. Eur. t.* 857.

O. labello mutico oblongo trilobo apice dilatato limbo glaberrimo luteo disco sanguineo velutino: lobo intermedio rotundato, petalis glabris.

O. vespifera. *Pers. Syn.* 2, 510.

Hab. in *Europa meridionali; Lusitania* et *Hispania,* umbrosis humidis, Cavanilles; *Gibraltaria; Apuliâ* et *Aprutio,* Tenore; *Sicilia,* Presl; *Galliâ australi* propre Monspelium, Bentham. (*hab. s. sp.*)

This seems to vary in the degree of smoothness and division of its lip; the figure given by Rchb., which corresponds with my French specimens, represents one extreme, that by Hooker the other.

3. Ophrys funerea. *Vivian. Cors. p.* 15.

O. labello mutico basin versus sensim coarctato conico tenuissimè sericeo lateribus deflexis anticè trilobo: lobis omnibus rotundatis medio paulo majore subintegerrimo.

Hab. in collibus *Corsicæ* australis, et prope *Genuam* secus aquæductus, Viviani.

Labellum ex atro lævissimè purpurascens, margine virescente cinctum. Ab *O. luteâ*, cui propiùs accedit, floribus duplò minoribus et labelli formâ differt *Viviani*. An *O. fusca?*

4. Ophrys fusca. *Link in Schrad. Diar. Bot.* 1799. 2. 324. *Willd. Sp. Pl.* 4. 69. *Tenor. Fl. Nap.* 2, 303, *t.* 92. *Rchb. ic. Eur. t.* 855. *Cambess. Balear. no.* 551.

O. labello mutico velutino oblongo trilobo : lobis lateralibus nanis intermedio emarginato, petalis glabris.

O. lutea. *Bivona Bernard. cent.* 2, *p.* 41, *t.* 5.

β. iricolor; labello cæruleo fasciato : lobis lateralibus brevioribus.

O. iricolor. *Desfont. choix. p.* 6, *t.* 3. *Rchb. ic. Eur. t.* 856.
O. fusca. *Bot. Reg. t.* 1071.

Hab. in *Europa meridionali*; *Lusitania*, Link, *Sicilia*, Bivona, *Calabria*, Tenore, *Gallia* prope Aginnum, et in insulis *Balearicis*, Cambessédes ; *β* in pascuis collinis prope *Cagliari*, Rchb., *Gibraltaria*. (*hab. a s. sp. comm. cel. Tineo*; *β v. v. c.*)

5. Ophrys Myodes. *Jacq. ic. rar.* 1, *t.* 184. *Willd. Sp. Pl.* 4. 64. *Rchb. ic. Eur. t.* 854.

O. labello mutico emarginato trilobo pubescente : lobis lateralibus linearibus acutis intermedio multò majore oblongo, petalis subulatis obtusis ciliatis, columnâ muticâ.

O. insectifera *α* myodes. *Linn. Sp. Pl.* 1343.
O. muscifera. *Smith Fl. Britt.* 3, 937. *Eng. Bot. t.* 64.

Hab. per omnem fère *Europam* mediam ; in septentrionalibus et regionibus australibus deficere videtur. (*hab. s. sp. et v. v. s.*)

6. Ophrys Speculum. *Link in Schrad. Journ.* 1799, 2, 324. *Bot. Reg. t.* 370. *Rchb. ic. Eur. t.* 859.

O. labello mutico oblongo trilobo limbo barbato atropurpureo disco glabro cæruleo luteo circumdato : lobis lateralibus pone basin nanis intermedio oblongo emarginato, petalis minimis glabris.

O. ciliata. *Bivon. Bernard. cent.* 1. 60, *no.* 69.
O. vernixia. *Brot. Fl. Lus.* 1, 24. *Cambess. Balear.* 141.
O. Scolopax. *Brot. Phyt. Lus.* 8, *t.* 3, *f.* 2.

Hab. in *Europâ meridionali*; *Lusitania*, Brotero, prope Coimbram ; prope *Malagam*, *Salzmann*; *Siciliâ*, Brown, *Algeria*, *Bové*. (*hab. s. sp.*)

7. Ophrys canaliculata. *Vivian. App. Cors. p.* 7.

O. labello basi cuneiformi convexo trifido : lobis lateralibus ovato-acuminatis hispidis brevioribus intermedio " in duos lobos anticè expanso," petalis minimis ciliato-hispidis.

Hab. in collibus Bonifacio in *Corsica*, Viviani.

8. Ophrys Pectus. *Mutel in Ann. Sc. n. s.* 3, 242, *t.* 8, *B. f.* 3.

O. labello mutico trilobo velutino : lobis lateralibus deflexis nanis et intermedio rotundato reflexis, petalis linearibus obtusis glabris.

Hab. in *Algeria*, prope Bonam, Mutel.

Labellum fusco-purpureum basi albidum turgidum pectigerum. Mutel.

9. Ophrys sphegifera. *Willd. Sp. Pl.* 4, 65.

O. labello pubescente tripartito angusto elongato: laciniâ mediâ integerrimâ appendiculatâ.

O. insectifera C. apiformis. *Desf. Atl.* 2, 321.

Hab. in *Barbaria*, Desfontaines.

10. Ophrys umbilicata. *Desf. in ann. mus. t.* 15.

O. labello testaceo obovato 3-partito laciniis lateralibus ovatis acutis intermediâ convexâ rotundatâ albo-zonatâ maculis 3 luteis supra zonam, sepalis petalisque herbaceis.

Hab. in *Oriente*, Tournefort.

11. Ophrys Bertolonii. *Moretti. C. B. Presl. Fl. Sic.* XLI. *Tenore, Sylog.* 460. *Rchb. ic. Europ. t.* 865.

O. labello mutico velutino obovato apice obsoletè trilobo retuso sepalis multò longiore: maculâ disci obcordatâ glabrâ nitente, petalis glabriusculis.

O. Speculum. "*Bertoloni, Pl. Gen. p.* 124." *Bivona, cent.* 1, *no.* 70, *t.* 3.

Hab. in *Sicilia*, Bivona; *Dalmatia*, Welden.; Regno Neapolitano, Tenore. (*hab. s. sp.*)

12. Ophrys araneola. *Rchb. Fl. Excurs.* 1, *no.* 871, *addenda; ic. Europ. t.* 861.

O. labello subrotundo subacuto pubescente basi mutico sulcis e basi binis nigris, petalis glabris.

Hab. in *Vallesia*, Rchb.

13. Ophrys aranifera. *Smith, Fl. Britt.* 3, 939. *Eng. Bot. t.* 65. *Willd. Sp. Pl.* 4, 66. *Bot. Reg. t.* 1197. *Rchb. ic. Eur. tt.* 862-3-4.

O. labello velutino oblongo emarginato panduriformi basi mutico, petalis lineari-oblongis glabriusculis columnâ longioribus.

O. fucifera. *Curt. Fl. Lond. t.* 67. *Smith, Eng. Fl.* 4, 32.

Hab. in *Europâ mediâ* et *meridionali*. (*hab. s. sp. et v. v. s.*)

This is a variable plant in the form and marking of its lip, but seems defined by the above character. Two or three varieties are figured by Rchb.

§ 2. Cornutæ. *Labello basi utrinque cornuto.*

14. Ophrys Scolopax. *Cav. ic.* 2, *t.* 161. *Mutel in ann. sc. n. s.* 3, 244, *t.* 8, *B. f.* 1.

O. labello basi bigibbo obovato velutino: lobis lateralibus deflexis barbatis intermedio oblongo apice inflexo emarginato, petalis velutinis apice angustatis.

O. bombyliflora. *Link. in Schrad. Journ.* 1799, 2, *p.* 325. *Willd. Sp. Pl.* 4, 68. *Rchb. ic. Eur. t.* 867.
O. apiculata. *Rich. Orch. Eur. p.* 33. fide Rchb.

Hab. in *Lusitania*, Link.; *Algeria*, Mutel;

Rchb. and Mutel both refer here *O. apiculata*, Rich., and the former does so, apparently upon the authority of an authentic specimen. I must however observe that this species does not agree with Richard's definition "labello subrotundo margine *indiviso*;" a character which applies

perfectly to a Luxembourg plant given me by M. Dumortier as the real O. *apiculata* (see O. *fuciflora*).

15. Ophrys apifera. *Huds. Angl.* 391. *Willd. Sp. Pl.* 4, 66. *Rchb. ic. Europ. t.* 866. *Eng. Bot. t.* 383.

O. labello trilobo basi bigibboso: lobis lateralibus deflexis acutis villosis intermedio glabriusculo apiculato apice reflexo, petalis villosis columnâ brevioribus.

Hab. in *Europâ mediâ.* (*v. v. s.*)

Can the O. *purpurea* of *Tausch.* (*Bot. Zeit.* 1831, 1, 222) belong to this species? If it is correctly described, which seems improbable, it must be very distinct from any I have ever seen or heard of.

16. Ophrys brachyotus. *Rchb. Fl. Excurs.* 1, 128, *ic. Europ. t.* 871.

O. labello velutino obovato-triangulari utrinque dentato basi bigibboso appendiculo inflexo, petalis subrotundo-ovatis velutinis columnæ obtusæ vix æqualibus.

Hab. prope *Genuam,* Rchb.; *Tergestum, Agardh.* (*hab. s. sp. comm. cel. Agardh.*)

17. Ophrys cornuta. *Stev. Mem. Mosq.* 2, 174, *t.* 10. *M. B. Fl. Taur.* 2, 370. *Rchb. ic. Europ. t.* 1870.

O. labello villoso obovato-triangulari trilobo: lobis lateralibus brevibus cornua duo longissima gerentibus intermedio obtuso cum appendiculo brevi inflexo, petalis brevissimis villosis.

O. bicornis. *Sadler in Linnæa,* 205 *litt.*

Hab. in *Tauria,* Steven; *Dalmatia,* Welden.; *Hungaria,* Nendtvich.

18. Ophrys picta. *Link. in Schrad. Journ.* 1799, 2, 325. *Willd. Sp. Pl.* 4, 69.

O. labelli trilobi laciniis lateralibus bipartitis alterâ parte sursùm alterâ deorsùm versis, mediâ emarginatâ appendiculatâ fusco flavoque variâ, petalis linearibus acutis purpureis, bracteis floribus multò longioribus.

Hab. in *Lusitania,* Link.

19. Ophrys tabanifera. *Willd. Sp. Pl.* 4, 68. *Rchb. ic. Europ. t.* 873.

O. labello bigibboso ovato acuto tripartito villoso: lobis lateralibus deflexis acutis intermedio ovato, petalis ciliatis acutis.

O. picta. *Salzm. exsicc. nec Link.*
O. insectifera B. biflora. *Desf. atl.* 2, 320.
O. pulla. *Tenor. Fl. Nap.* 2, 311, *t.* 97.
O. hiulca. *Seb. et Maur. Rom. Pl. Cent.* 13, 43, *t.* 2, *f.* 2.
O. œstrifera. *Steven in Mem. Mosq.* 2, 176, *t.* 11, *f.* 4, 5.
O. distoma. *Bivon. Bernard. Cent.* 1, *p.* 59.
O. bombyliflora. *Mutel in ann. sc. n. s.* 3, 243, *t.* 8, *B. f.* 4.

Hab. in *Europa meridionali* et *Barbaria*; agro *Romano,* Mauri; *Sicilia,* Bivona; *Lucania, Apulia, Aprutio,* Tenore; *Algeria, Bové.* (*hab. s. sp.*)

20. Ophrys bremifera. *Steven in Mem. Mosq.* 2, 174, *t.* 11. *Bieb. Taur. Cauc.* 2, 370.

O. "caule folioso, labello villoso basi bicorni trilobo, lobo medio emargi-

nato cum appendiculo brevi, perianthii foliolis interioribus villosis brevissimis."

Hab. in *Tauria*, Steven.

21. Ophrys pseudospeculum. *DC. Fl. Fr. VI.* 332. *Rchb. ic. Eur. t.* 860.

O. labello oblongo indiviso basi bicalloso apice obsoletè 3-dentato limbo villoso disco glabrato, petalis pubescentibus columnæ brevirostri æqualibus.

Hab. in *Gallia australi*, prope Monspelium (*hab. s. sp. comm. cel. Bentham.*)

22. Ophrys fuciflora. *Hall. ic. Helv. t.* 24, *f.* 2, 3. *Rchb. ic. Eur. t.* 868, 869.

O. labello obovato-triangulari velutino indiviso basi bigibboso apice appendice rhombeo inflexo, petalis convolutis columnam brevirostrem subæquantibus velutinis.

O. arachnites. *Eng. Bot. Suppl. t.* 2596.
O. crabronifera. *Sebast. et Mauri Rom. Pl. Cent.* 13, *t.* 2, *f.* 1.
O. exaltata. *Tenore Append. Alt.* 83, fide Rchb.
O. apiculata. *Richard Orc. Eur.* 33, sec. descr.
O. œstrifera. *Rchb. Fl. Excurs.* 1, 128, nec Stev.

Hab. per omnem *Europam mediam*, (*hab. s. sp.*)

It appears to me that Richard must have intended this plant by his O. *apiculata*, notwithstanding the supposed authority to the contrary of a specimen of O. *Scolopax* figured by Rchb. who even quotes that plant as a synonym of this in his Flora excursoria.

23. Ophrys atrata. *Lindl. in Bot. Reg. fol.* 1087. *Rchb. Fl. Excurs.* 1, 129.

O. labello emarginato integerrimo convexo villoso bivittato versus basin bicorni, petalis ovatis pubescentibus.

Hab. in *Italia* prope Romam, *Mauri*; in *Istria*, Rchb. *Bentham, Hornschuch.* (*hab. s. sp. et v. v. c.*)

24. Ophrys arachnites. *Host. Synops.* 492. *Willd. Sp. Pl.* 4, 67. *Bot. Mag. t.* 2516. *Rchb. ic. Europ. t.* 872.

O. labello indiviso latissimo trapezoideo vix velutino appendice incurvo basi bigibboso, petalis glaberrimis columnam obtusam æquantibus.

Hab. in *Europa media*; *Austria*, Host. (*hab. s. sp. comm. cel. Jacquin.*)

25. Ophrys tenthredinifera. *Willd. Sp. Pl.* 4, 67. *Bot. Reg. t.* 205, 1093. *Bot. Mag. t.* 1093. *Rchb. ic. Eur. t.* 874. *Fl. Græc. t.* 929. *Bivon. cent.* 2, *t.* 4.

O. labello integerrimo subquadrato cuneato villoso appendiculato basi auriculato cornuto sub apice barbato disco glabro: appendice inflexo, petalis ovatis acutis tomentosis, bracteis florum longitudine.

O. villosa. *Desf. in Ann. Mus.* 10, 225, *t.* 14. *Rchb. l. c. t.* 875.
O. grandiflora. *Tenore App. Alt.* 83, *Fl. Nap. t.* 94.

Hab. in *Europâ meridionali*, Sicilia, Calabria, Græcia, insulis Balearicis; etiam in *Asia minore* et *Barbaria* (*hab. s. s. p. et v. v. c.*)

26. Ophrys Tenoreana. *Lindl. Bot. Reg. fol.* 1093. *Rchb. ic. Europ. t.* 876.

O. labello integerrimo trapezoideo angulato velutino appendiculato basi bi-

calloso disco fusco lineâ flexuosâ luteâ, petalis ovatis acutis tomentosis, bracteis floribus longioribus.

O. tenthredinifera. *Tenore Fl. Nap.* 308, *t.* 93.
O. fusca. *Fl. Græc. t.* 930.

Hab. in *Calabriæ* dumetis, nec non in *Græcia* (*hab. s. sp. comm. cel. Strangways.*)

27. Ophrys ferrum equinum. *Desf. in Ann. Mus.* 10. *t.* 15.

O. labello oblongo subquadrato apiculato violaceo maculâ albâ hippocrepicâ in medio, sepalis roseis.

Hab. in *Oriente,* Tournefort.

Verosimiliter O. *tenthrediniferæ* proxima, et fortè varietas.

28. Ophrys mammosa. *Desf. in Ann. Mus.* 10, *t.* 12.

O. labello fusco basi bimammoso oblongo apice viridi obsoletè trilobo disco bivittato mammisque violaceis.

Hab. in *Oriente,* Tournefort.

† Ophrys crucigera. *Jacq. ic. Rar. t.* 185 is an imaginary figure.

CCXII. SERAPIAS.

Serapias. *Linn. Gen. Swartz, Act. Holm.* 1800, *p.* 223, *t.* 3, *f. H. Brown, H. K.* 5, 194. *Rich. Orch. p.* 32.——Helleborine. *Pers. Syn.* 2, 512.

Perianthium galeatum. Sepala convoluto-conniventia, lateralibus superiori agglutinatis rimam pro labello exserendo efficientibus. Petala nana basi dilatata. Labellum trilobum, basi bilamellatum, laciniis lateralibus rotundatis columnam amplexantibus intermediâ pendulâ elongatâ basi constrictâ. Anthera erecta, rostrata, loculis parallelis contiguis. Pollinia caudiculis duabus glandulæ unicæ cucullo communi inclusæ affixis. Stigma oblongum, e facie columnæ excavatum.———Herbæ europææ, radicibus testiculatis, spicâ terminali subspirali pauciflorâ.

1. Serapias cordigera. *Linn. Sp. Pl.* 1345. *Desf. Atl.* 2, 321. *Fl. Græc. t.* 932. *Bot. Repos. t.* 475.

S. labello cordato-ovato glanduloso-piloso, floribus congestis bractearum longitudine.

Helleborine cordigera. *Sebast. Maur. Prodr. Rom. t. X.*
Serapias ovalis. *Richard, Orch. Eur.* 32.

Hab. per oras *maris mediterranei,* nec non in *Hispania.* (*hab. s. sp.*)

2. Serapias Lingua. *Linn. Sp. Pl.* 1344. *Tenore Syll.* 458. *Hooker Exot. Fl. t.* 11. *Bot. Cat. t.* 655. *Rchb. Fl. Excurs.* 1, 129. *Fl. Græc. t.* 931.

S. labello ovato-lanceolato basi pubescente, bracteis floribus brevioribus.

Helleborine Lingua. *Pers. Syn.* 2.

α. Sepalis acuminatis lobis lateralibus labelli longioribus.

β. Sepalis acutis lobis lateralibus labelli æqualibus.

Hab. in *Europâ australi*; β prope *Messinam.* (*hab. s. sp.*; β *comm. cel. Swainson.*)

The variety β is a remarkable plant, and by no means that figured in Exotic Botany, which was also furnished by Mr. Swainson.

3. SERAPIAS longipetala. *Rchb. Fl. Excurs.* 1, 130. *Tenore Syll.* 458.

S. labello ovato-lanceolato acuminato basi glanduloso-piloso, bracteis floribus longioribus.

Helleborine longipetala. *Tenore, Fl. Nap. Prodr.* 53. *Sebast. et Maur. Fl. Rom. Prodr.* 312.
Helleborine pseudo-cordigera. *Sebast. Rom. Pl. Fasc.* 1, 14, *t.* 4, *f.* 1.
Serapias lancifera. *St. Amans, Fl. Ag.* 378.
Serapias cordigera var. longipetala. *Bot. Reg. t.* 1189.
S. cordigera. *M. B. Fl. Taur.* 370.

β? *Parviflora*; floribus multo minoribus.

Serapias parviflora. *Parlatore in Linnæa*, 12, 347, *t.* 4.

Hab. in *Italiâ, Tenore*; *Iberia* et *Grusiâ, Steven, Galliâ australi,* St. Amans; prope *Melos* et *Colchis* valde frequens, D'Urville; β. in udis martimis prope *Panormum* a Mondello. (*hab. s. sp. et v. v. c.*)

4. SERAPIAS oxyglottis. *Willd. Sp. Pl.* 4, 71?

S. labello lineari-lanceolato acuminato glabriusculo, sepalis acuminatissimis, bracteis acuminatis floribus longioribus.

Hab. in *Algeriâ, Bové.* (*hab. s. sp.*)

Possibly Rchb. may be right in referring to S. *longipetala* the figures in Petiver on which Willdenow founded this species; but the character given by the latter botanist suits this in all respects, and it is the only plant I have seen which it suits at all.

5. SERAPIAS triloba. *Vivian. Fl. Ital. Fragm. p.* 11, *t.* 12, *f.* 1. *Rchb. Fl. Excurs.* 1, 130.

S. "labelli lobis subæqualibus omnibus exsertis rotundatis undulato-crenatis."

Hab. prope *Genuam,* Viviani.

NOTE. The Total number of Orchidaceous plants belonging to the Tribe Ophrydeæ is as follows;

Certain	438
Doubtful	11
Total	449

Their geographical arrangement is thus:

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropics.	South America beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropics.	North Africa.
169. Orchis	34	15	2	1	.	.	.	.	.	.	.	.	.	.	.	.	10
170. Anacamptis	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
171. Gymnadenia	5	5	4	5	.	.	.	.	.	.	.	.	.	.	2	1	1
172. Perularia	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
173. Nigritella	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
174. Aceras	2	2	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1
175. Holothrix	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.
176. Glossaspis	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
177. Platanthera	4	2	28	9	2	1	2	1	2	.	.	.	.	.	1	1	.
178. Hemipilia	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
179. Peristylus	5	2	6	4	.	2	2	.	.	.	.	.	.	.	2	.	2
180. Saccidium	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
181. Pachites	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
182. Cœloglossum	.	.	.	5	.	.	.	.	.	.	.	.	.	.	.	.	.
183. Monotris	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
184. Scopularia	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
185. Aopla	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
186. Herminium	2	1	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
187. Habenaria	.	.	2	15	12	4	3	1	.	2	.	30	6	1	7	4	1
188. Ate	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
189. Bonatea	.	.	.	.	1	.	.	.	.	.	.	3	.	4	2	.	.
190. Diplomeris	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.
191. Cynorchis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7	.	.
192. Tryphia	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
193. Arnottia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
194. Bartholina	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
195. Bicornella	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.
196. Satyrium	.	.	.	2	1	1	.	.	.	.	.	.	.	31	4	.	.
197. Satyridium	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
198. Aviceps	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
199. Disa	.	.	.	.	.	.	.	.	.	.	.	.	.	38	1	.	.
200. Monadenia	.	.	.	.	.	.	.	.	.	.	.	.	.	8	.	.	.
201. Schizodium	.	.	.	.	.	.	.	.	.	.	.	.	.	9	.	.	.
202. Penthea	.	.	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.
203. Forficaria	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
204. Herschelia	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
205. Brachycorythis	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
206. Ceratandra	.	.	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.
207. Ommatodium	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.
208. Pterygodium	.	.	.	.	.	.	.	.	.	.	.	.	.	8	.	.	.
209. Corycium	.	.	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.
210. Disperis	.	.	.	.	.	1	.	.	.	.	.	.	.	5	2	.	.
211. Ophrys	24	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6
212. Serapias	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Total	[illegible]	28	[illegible]	[illegible]	17	9	7	3	2	2	.	33	6	135	31	6	23

ORCHIDACEÆ.

Tribe V. Arethuseæ.

Orchideæ, Tribus Arethuseæ, et Gastrodieæ. *Lindl. Orch. Scel.* 7 *and* 10. Vanillaceæ. *Id. Key to Botany* 73. *Nat. Syst. ed.* 2. 341.

Pollen pulvereum, aut in lobulos minutos elasticè cohærentes colligatum. Anthera terminalis, opercularis, persistens aut decidua. Herbæ habitu variæ sæpius terrestres, rarius epiphytæ, regiones temperatas utriusque hemisphæræ, præsertim australis, habitantes, in Africâ verosimiliter ignotæ; quædam aphyllæ, in radices plantarum parasiticæ, rufæ, Orobanchis facie. Folia membranacea, graminea, nunc reticulata, nunc plicata, aliquando succulenta, rarò dura evaginata et cum caule completè articulata. Flores plurimarum membranacei, speciosi, rarius parvi et herbacei.

After much consideration, and a careful examination of a large proportion of the species hereafter described, I have come to the conclusion that Gastrodieæ, a section first limited by Dr. Robert Brown, are not to be considered of the same importance as the other tribes admitted in this book, but as a mere section of Arethuseæ. In like manner my Vanillaceæ lose their distinctive character through Cyrtosia of Blume, which, till it was published in the *Rumphia* with a figure, I had supposed to be a genus of Malaxideæ.

Confined within the limits now proposed, Arethuseæ form a distinctly marked tribe of Orchidaceæ, passing into Ophrydeæ through Gastrodieæ, and especially the genus Ceratopsis, and into Neottieæ by Microtis. The genus Cyrtostylis may be considered an analogue of Liparis among Malaxideæ, and Limodorum of Orchis in Ophrydeæ. Sobralia and Cyathoglottis represent the Evelyna of Epidendreæ; but I find nothing that can be compared with any known genus of Vandeæ, taking both flowers and leaves together. The nearest approach is apparently through Geodorum to Cephalanthera.

Artificial Analysis of the Genera.

Div. I. Gastrodieæ. Pollen sectile: lobulis elasticè cohærentibus. Stigma ad columnæ basin.

Perianthium monophyllum. - - -	215. Gastrodia.
	214. Gamoplexis.
Perianthium pentaphyllum.	
Labellum indivisum, calcaratum. - -	213. Ceratopsis.
Labellum trilobum, saccatum. - . -	212. Epipogium.

Div. II. Euarethuseæ. Pollen granulosum v. pulvereum. Stigma ad columnæ apicem. Folia vaginantia c. caule continua.

Perianthium monophyllum - - - - 238. Anthogonium.
Perianthium 4-5 phyllum.
  Galea sepalis multò major.
    Labellum basi appendiculatum,
      disco glanduloso - - - - 217. Chiloglottis.
      disco nudo - - - - 218. Pterostylis.
    Labellum basi muticum.
      Sepala lateralia et petala labello supposita minora
        Galea maxima. - - - 220. Corysanthes.
        Galea fornicata. - - - 223. Cyrtostylis.
      Petala ascendentia.
        Columna nana, teres. - - - 221. Microtis.
        Columna elongata. - - - 219. Lyperanthus.
  Galea sepalis subæqualis aut minor.
    Columna maxima petaloidea. - - - 243. Caleana.
    Columna teres, alata, aut marginata.
      Perianthium ringens manifestè bilabiatum.
        Labellum basi nudum
          calcaratum. - - - 224. Limodorum.
          ecalc. longè unguiculatum.
            Unguis geniculatus - - 242. Drakæa.
            Unguis rectus.
              Columna biauriculata. - 241. Spiculæa.
              Columna aptera. - - - 240. Eriochilus.
          ecalc. sessile v. subsessile.
            Columna membranaceo-alata.
              Labellum columnæ adnatum. - 239. Arethusa.
              Labellum liberum.
                Petala sepalis conformia, aut minora - - - } 234. Caladenia.
                Petala sepalis longiora. - 233. Leptoceras.
            Columna semiteres.
              Labellum omninò sessile. - 232. Pogonia.
              Labellum unguiculatum.
                Sepala lateralia indivisa - 225. Chloræa.
                Sepala lateralia pinnata. - 226. Bipinnula.
        Labellum basi bicallosum.
      Poll. 4. Sepala acuminatissima. - - 222. Acianthus.
          Pollinia 4 v. 2 bipart. - - - 227. Asarca.
      Perianthium subæquale.
        Labellum petalis conforme - - - 216. Macdonaldia.
        Labellum petalis formâ diversum,
          c. columnâ connatum. - - - 237. Crybe.
          liberum,
            basi bicallosum. - - - - 228. Cleistes.
            basi ecallosum,
              appendiculatum. - - - 235. Glossodia.
              muticum,
                medio constrictum. - - 231. Cephalanthera.
                continuum,
                  disco nudum. - 230. Haplostellis.
                  disco seriatim glandulosum,
                    unguiculatum - 236. Calopogon.
                    subsessile - 229. Codonorchis.

Div. III. Vanilleæ. Pollen pulvereum, granulosum, aut pulposum. Stigma ad columnæ apicem. Folia sæpius evaginata, reticulata, cum caule articulata.

Labellum c. columnâ altè connatum. - - - - 247. Vanilla.
Labellum liberum v. subliberum.

Calyculus. - - - - - 246. Epistephium.
Calyculus nullus.
Columna aptera. - - - - 244. Cyathoglottis.
Columna apice utrinque aurita.
Fructus capsularis - - 245. Sobralia.
Fructus baccatus.
Labellum nudum integerrimum - 248. Cyrtosia.
Labellum semitrilobum plicatum - 249. Erythrorchis.

Div. 1. GASTRODIEÆ.

Stigma ad basin columnæ situm. Pollen sectile, in lobulos elasticè cohærentes colligatum.

CCXII. EPIPOGIUM.

Epipogium. *Gmel. sibir. I.* 11. *Brown Prodr. in notis* 1. 330. *Nees jun. Gen. Pl. Europ. fasc. x. t.* 10.——Epipogum. *L. C. Richard. Orch. Eur. annot. p.* 28.

Perianthium bilabiatum. Sepala angusta, acuta, deflexa. Petala conformia, deflexa. Labellum posticum, basi ventricoso-saccatum, trilobum; lobis lateralibus auriculiformibus, intermedio tuberculis seriatis lineato. Columna brevis, truncata, stigmate tabulari prominente. Anthera bilocularis. Pollinia 4, per paria cohærentia, caudiculis duabus glandulæ communi deltoideæ adhærentibus.——Herba europæa aphylla, radice ramosa, corallina, carnosa. Scapus distanter membranaceo-vaginatus, pauciflorus.

1. Epipogium Gmelini. *L. C. Richard. annot.* 36. *Host. Fl. Austr. II.* 536.

Satyrium Epipogium. *Linn. Syst. Veg.* 676. *Jacq. Fl. Austr. t.* 84. *Crantz. Austr.* 477. *no.* 10.
Limodorum Epipogium. *Swartz n. Act. Ups.* 6. 80.
Epipogium aphyllum. *Rchb. fl. excurs.* 135. *Mayrhof. dissert.* 52.
Epipogum. *Gmel. sib.* 1. 12. *t.* 2. *f.* 2.

Hab. in sylvis subalpinis *Austriæ*, Host; in altis sterilibusque locis montium *Sibiriæ*, Gmelin. (*hab. s. sp. comm. cel. Bentham et A. De Candolle.*)

Scapus fistulosus, squamis fuscis vaginatus. Racemus 2-8-florus. Flores penduli, resupinati. Labellum albidum, colore dilutè purpureo suffusum, ad margines lineis elevatis undulatis percursum. *Mayrhofer.*

CCXIII. CERATOPSIS.

Sepala et petala parallela? subæqualia, libera, tenera. Labellum ovatum, nudum, basi calcaratum, indivisum, sub apice tuberculatum. Columna minima, truncata, apice in fronte bicirrhosa. Anthera pedicellata, terminalis, incumbens, bilocularis, cristata. Pollinia granulata, sectilia. ——Herba aphylla, membranaceo-vaginata, Indiæ orientalis.

Genus malè definitum, mihi exemplare unico incompleto notum, mox eruendum; interea satis distinctum.

1. CERATOPSIS rosea.

Limodorum roseum. *Don Prodr. nep.* 30.

Hab. in *Nepalia* superiore, Wallich. (*hab. s. sp. comm. cel. Rudge.*)

Herba palmaris, aphylla, squamis scariosis vestita. Columna minima.

CCXIV. GAMOPLEXIS.

Gamoplexis. *Falconer in Royle's Illustr. p.* 367.

Herba facie Orobanchis, montis Himalensis Dhunoultee incola, perianthio monophyllo, sepalis petalis in tubum connatis.

Nothing further is known of this genus, which is said by its discoverer to belong to the tribe of Gastrodieæ. The character, as far as it has been given, is that of Gastrodia itself.

CCXV. GASTRODIA.

Gastrodia. *R Brown Prodr.* 330. *Endlich. genera, no.* 1544. ?Epiphanes. *Blume Bijdr. p.* 421. *tab. IV.*

Perianthium monophyllum, tubulosum, ventricosum, ore 5-lobo, patente; lobis antrorsùm subsecundis. Labellum inclusum, liberum, unguiculatum, columnæ incumbens, intus bilamellatum. Columna elongata, fistulosa, apice cava, basi anticè incrassata stigmatosa. Anthera terminalis, mobilis, decidua, carnosa, loculis approximatis. Pollinia 4, sectilia, lobulis elasticè cohærentibus.———Herbæ supra radices parasiticæ, aphyllæ, squamatæ, rufescentes. Flores racemosi, albicantes v. ochroleuci. Squamæ et bracteæ margine membranaceæ.

1. GASTRODIA sesamoides. *Brown Prodr.* 330.

Hab. in *Nova Hollandia*; ad Portum Jackson, Brown; in rupestribus aridis, nec non in sylvis sabulosis, *A. Cunningham*; in Tasmannia in solo vario frequens, *Gunn* (613); etiam in *Nova Zelandia*, A. Cunningham. (*hab. s. sp. et. v. ic. Ferd. Baueri a cel. Endlicher benignè communicat.*)

Radix tuberosa, oblonga, carnosa, nigritis escam præbens. Racemus ante anthesin nutans, mox erectus; flores penduli.

2. GASTRODIA? Javanica.

Epiphanes Javanica. *Blume Bijdr. l. c.*

Hab. in *Java*; in sylvis humidis montium Seribu, Blume.

"Planta terrestris. Radices tuberosæ. Scapus aphyllus, stipulis alternis. Flores spicati, pedicellati, bracteati, mediocres. Perianth. monophyllum, concavum, ore quinquefido, laciniis biserialibus. Labellum mediocre, sellæforme, ungui gynostemii arcuato affixum, basi angustatum, utrinque callosum, intus cristatum, gynostemio incumbens. Gynostemium erectum, apice cavitate antheriferâ et utrinque dente laterali instructum. Anthera terminalis, bilocularis, loculis longitudinaliter dehiscentibus. Massæ pollinis pulvereæ." *Blume.*

I doubt whether this plant really belongs to Gastrodia, notwithstanding its apparent resemblance; for the pollen is described as pulverulent, and the stigma is represented in Blume's figure at the apex of the column.

Div. 2. EUARETHUSEÆ.

Stigma ad columnæ apicem. Pollen granulosum, aut pulvereum. Folia vaginantia, membranacea, sæpiùs pilosa, cum caule continua. Radices sæpissimè tuberculos amylo repletos promentes.

CCXVI. MACDONALDIA.

Macdonaldia. *R. Gunn in litt.* 1838. *Lindl. Bot. Reg. App. No.* 217.

Perianthium patentissimum æquale. Sepala et petala conformia; his angustioribus. Labellum petalis simile, omninò calvum. Columna brevis, clinandrio posticè elevato carnoso trilobo, lobis lateralibus declivibus, nunc appendiculatis. Anthera tomentosa, anticè intrusa, valvis membranaceis.——Herbæ Australasicæ flexuosæ, flexurâ quâque folio suffultâ lineari. Flores lutei, v. purpurei, terminales, solitarii v. rariùs gemini aut plures.

This genus differs from *Thelymitra* as *Cephalanthera* from *Epipactis*.

§ 1. Veræ; *clinandrii lobis lateralibus obsoletis.*

1. Macdonaldia Smithiana. *Gunn mss. Lindl. in Bot. Reg. App. no.* 217. *t. ix. B.*

M. caule unifloro 3-phyllo, floribus luteis, sepalis petalisque obtusis, cuculli trilobi glabri laciniis lateralibus nanis intermediâ muticâ, antherâ tomentosâ.

Hab. in *Tasmannia*, in agris sterilibus arenosis prope Circular Head, *Gunn*, 945 (*hab. s. sp. comm. cel. inventor.*)

2. Macdonaldia concolor. *Lindl. l. c. no.* 218.

M. caule triphyllo subbifloro, floribus luteis, sepalis petalisque obtusis, cuculli trilobi glabri laciniis lateralibus majoribus rotundatis, intermediâ minimâ glabrâ.

Thelymitra flexuosa. *Endl. dec. no.* 29.

Hab. in *N. Hollandiæ* orâ occidentali ad sinum regis Georgii, *Collie.* (*hab. s. sp. comm. soc. Linn. Lond.*)

A plant with all the habit of the last.

3. Macdonaldia antennifera, *Lindl. l. c. t.* 9. *C. no.* 219.

M. caule subtriphyllo paucifloro, floribus luteis, sepalis petalisque obtusis, clinandrio a tergo appendicibus 2 carnosis clavatis emarginatis aucto.

Hab. in *N. Hollandiæ* orâ occidentali; Swan River, *Drummond*; ad Augustam, *Da. Molloy.* (*hab. s. sp.*)

The roots are eaten by the natives of Augusta according to Mrs. Molloy.

§ 2. Biaurella; *clinandrii lobo medio obsoleto lateralibus appendiculatis.*

4. Macdonaldia variegata. *Lindl. l. c. no.* 220.

M. floribus purpureis, sepalis petalisque linearibus acuminatis, clinandrii

laciniis lateralibus lanceolatis subcarinatis intermediâ obsoletâ papillosâ, antherâ carnosâ obtusâ elongatâ loculis brevibus semicircularibus membranaceis.

Hab. in *N. Hollandiæ* orâ occidentali, ad Swan River, *Drummond.* (*hab. s. sp.*)

Stem 1-1½ ft. high. Flowers large for the genus, purple, variegated.

5 MACDONALDIA spiralis. *Lindl. l. c. no.* 221.

M. folio radicali spirali caulino solitario ovato, caule unifloro, floribus purpureis, clinandrii laciniis lateralibus carnosis dolabriformibus intermediâ obsoletâ papillosâ, antherâ obtusâ apice pubescente.

Hab. in *N. Hollandiæ* orâ occidentali, ad Swan River., *Drummond* (*hab. s. sp.*)

About a foot high. Appendages of the column yellow.

6. MACDONALDIA cyanea. *Lindl. l. c. no.* 222.

M. caule stricto subbifloro, floribus cyaneis, clinandrii laciniis lateralibus apice dentatis intermediâ obsoletâ papillosâ, antherâ apice trilobâ.

Hab. in *Tasmannia,* ad Rocky Cape et Circular Head, Dec. *Gunn.* 938, 944 (*hab. s. sp.*)

Stem 1 to 2 feet high, with two distant close-pressed sheaths. Varies with white and violet flowers.

7. MACDONALDIA venosa. *Lindl. l. c. no.* 223.

M. caule stricto bifloro, floribus cæruleis campanulatis, labello sepalis petalisque serrulatis, clinandrii lobis lateralibus spiraliter involutis intermedio papilloso, antherâ basi verrucosâ.

Thelymitra venosa. *R. Brown Prodr.* 170.

Hab. in *N. Hollandiâ,* prope Sydney, R. Brown, (*hab. ic. Bauero pictam comm. cel. Endlicher.*)

Stem slender a foot or more high. Leaf linear, about half the length of the stem.

CCXVII. CHILOGLOTTIS.

Chiloglottis. *Br. Prodr.* 1. 322. *Endlich. gen. no.* 1591.

Perianthium bilabiatum, sepalo supremo fornicato, lateralibus canaliculatis apice teretibus, elongatis, labello suppositis. Labellum unguiculatum, disco indiviso glanduloso basi appendiculato. Columna elongata, arcuata, apice bifida. Pollinia 4. ——Herbæ terrestres, Australasicæ, tuberculis sphæricis cauliculum descendentem radiciformem terminantibus. Folia radicalia 2, approximata, ovalia, multivenia, basibus angustatis vagina scariosa inclusis. Scapus uniflorus, sub pedicello bracteatus. Flores rufi.

1. CHILOGLOTTIS diphylla. *R. Brown Prodr.* 322, *Ferd. Bauer, Illustrat. t.* 8.

C. sepalo dorsali spathulato acuminato petalis reflexis integris angustiore, labelli obovati disco toto tuberculato.

Acianthus? bifolius. *R. Br. Prodr.* 322. *Supra no.* 4.
Epipactis reflexa. *Labillard. Nov. Holl. t.* 211. *f.* 1.

Hab. in *Nova Hollandia;* ad Portum Jackson, *R. Brown;* Tasmannia in sylvarum udis sabulosis umbrosis inter muscos, Februario florens *Gunn, no.* 914, (*hab. s. sp.*)

2. Chiloglottis Gunnii.

C. sepalo dorsali obtusiusculo petalis erectis hinc serrulatis latiore et longiore, labelli subrotundi disco nudo axi seriebus tribus tuberculato.

Hab. in *Tasmannia,* in sylvæ densæ udis sabulosis umbrosis inter muscos prope Circular Head, florens Novembre. *Gunn, no.* 913, (*hab. s. sp., a cl. inventore.*)

Planta rarissima præcedente humilior et minùs gracilis. Folia erecta, oblonga, scapo æqualia. Flores multò majores. Labellum subrotundo-ovatum, glabrum, tuberculo uno pone basin maximo pedicellato, tum paucis lateralibus parvis etiam pedicellatis, proximè tribus majoribus subsessilibus, denique altero reniformi terminali omninò sessili.

CCVIII. PTEROSTYLIS.

Pterostylis. *Brown Prodr.* 1. 326. *Endl. gen. no.* 1595.

Perianthium ringens. Sepala apice elongata attenuata aut mutica, intermedio galeato. Petala galeæ agglutinata et conformia. Labellum unguiculatum, subinclusum; limbo angusto mutico basi appendice fimbriatâ vel indivisâ aucto; ungue sepalis adnato. Columna elongata, arcuata, semiteres, apice auriculis petaloideis alata. Anthera persistens, loculis approximatis. Pollinia 4, compressa. Stigmatis labia inferiora in medio columnæ, cum superiore sub antherâ sito per canalem tenuem juncta.——Folia membranacea, nunc radicalia stellata, nunc caulem 1-00-florum vestientia; nunc ferè deficientia. Flores venis viridibus picti. Labellum sæpè irritabile.

§ 1. *Caule folioso unifloro; foliis omnibus conformibus.*

1. Pterostylis reflexa. *R. Br. Prodr.* 327.

P. foliis lineari-lanceolatis setaceo-acuminatis, sepalis lateralibus setaceo-acuminatis reflexis dorsali acuminato inflexo longioribus, labelli laminâ sensìm acuminata: appendice penicillatâ.

Disperis alata. *Labillard. N. Holl. t.* 210?

Hab. in *Nova Hollandia;* ad Portum Jackson, R. Brown; in sylvis graminosis prope Paramatta, ubi copiosè provenit, florens Aprili, *A. Cunningham,* (*hab. s. sp. comm. cel. A. Cunn.*)

2. Pterostylis grandiflora. *R. Br. Prodr.* 327. *Ferd. Bauer, ic. n. Holl. Guillem. ic. Lith. t.* 6.

P. foliis lineari-lanceolatis acutis intermediis longioribus, sepalis lateralibus setaceo-acuminatissimis sursùm elliptico-dilatatis dorsali acuminatâ multò longioribus, labelli laminâ apice filiformi obtusâ, appendice penicillatâ.

Hab. in *Nova Hollandia;* in valleculis umbrosis versus mare declivibus juxta Portum Jackson, Maio florens, *A. Cunningham,* (*hab. s. sp. comm. cel. A. Cunn.*)

3. Pterostylis Banksii. *A. Cunningham, in Bot. Mag.* 59. *t.* 3172.

P. "caule folioso unifloro, foliis lato-lanceolatis infimè carinatis basi vaginantibus, labello oblongo ovato subuncinato obtusiusculo columnam æquante, appendice penicillata."

Hab. in *Nova Zelandia,* ad rivuli Kana-Kana marginem in sinu insularum et ad Wangaroa, A. Cunningham. Vernaculè *Tae-toe* sive *Mar-ru* dicitur.

4 Pterostylis scabra. *Lindl. Swan. Riv. no.* 255.

P. caule scabro, foliis ovato-lanceolatis acuminatis, labelli laminâ apice filiformi clavatâ, appendice penicillatâ, sepalorum lateralium acumine filiformi ipsis breviore.

Hab. in *Nova Hollandia* occidentali; ad Swan River, *Drummond* (*hab. s. sp.*)

5. Pterostylis præcox.

P. caule scabriusculo tenui, foliis ovato-lanceolatis acuminatis margine glabris, sepalis lateralibus filiformi-acuminatis erectis dorsali acuto parùm longioribus, labelli laminâ lineari-lanceolatâ, appendice penicillatâ.

Hab. in *Tasmannia,* in saxetis siccis, Julio florens, *Gunn* 751. (*hab. s. sp. ab indefesso inventore.*)

Præcedenti habitu similis, sed tenuior, et characteribus datis abundè diversa.

6. Pterostylis pyramidalis. *Lindl. Swan Riv. no* 253.

P. foliis inferioribus ovatis in petiolum angustatis superioribus minoribus sessilibus, labelli laminâ lineari apice paulo latiore, appendice penicillatâ, sepalis lateralibus filiformibus supremi longitudine.

Hab. in *Novâ Hollandiâ* occidentali; ad Swan River, *Drummond* (*hab. s. sp.*)

7 Pterostylis barbata. *Lindl. l. c. no.* 254.

P. foliis ovatis acuminatis imbricatis supremis vaginantibus inflatis, labelli laminâ subulatâ clavatâ barbatâ sub apice nudâ, appendice glabrâ apice denticulatâ, sepalis acuminatissimis.

Hab. in *Novâ Hollandiâ* occidentali, ad Swan River, *Drummond* (*hab. s. sp.*)

8. Pterostylis squamata. *R. Br. Prodr.* 327.

P. foliis radicalibus erectis imbricatis acuminatis in caulem ascendentibus caulinis nunc squamæformibus, sepalis lateralibus linearibus pendulis dorsali multò minoribus, labelli laminâ filiformi luteo-barbatâ apice dilatatâ lunatâ glabrâ.

Hab. in *Tasmannia*; infrequens in arenosis sterilibus prope Circular Head, nec non in collibus aridis juxta Launceston, florens Novembre, *Gunn,* 603. (*hab. s. sp. comm. cl. Gunn.*)

Labellum dependens, haud irritabile, *R. Gunn.*

§ 2. *Caule folioso multifloro; foliis omnibus conformibus.*

9. Pterostylis longifolia. *R. Br. Prodr.* 327.

P. foliis linearibus acutis subtùs glaucis, sepalis acutis dorsali galeato late-

ralibus pendulis semiconnatis, labello lineari oblongo quadridentato basi glanduloso, appendice brevissimâ obtusâ indivisâ, columnæ alis barbatis.

Hab. in *Nova Hollandia;* ad Portum Jackson, R. Brown, Sieber no. 160; in Tasmanniâ inter lapides rupesque quartzosas, in solo sterili, florens Octobri, *Gunn* 345. (*hab. s. sp.*)

Labellum valdè irritabile, *Gunn.*

10. Pterostylis vittata. *Lindl. Swan Riv. no.* 252.

P. foliis radicalibus nullis caulinis ovato-lanceolatis, labello bifido fimbriato appendice indivisâ, columnæ alis deorsum acuminatis barbatis.

Hab. in *N. Hollandia occidentali;* ad Swan River, *Drummond;* ad sinum R. Georgii, *Collie.* (*hab. s. sp.*)

Præcedenti similis, sed folia multò latiora, nec, ut videtur, subtùs glauca.

11. Pterostylis parviflora. *R. Br. Prodr.* 327.

P. " caule 2-5 floro, labio inferiore breviore, appendice apice trifurcâ."

Hab. in *N. Hollandia,* prope Portum Jackson, R. Brown.

§ 3. *Caule folioso, unifloro; foliis radicalibus stellatis, vel saltèm a caulinis valdè diversis.*

12. Pterostylis obtusa. *R. Brown, Prodr.* 327.

P. foliis radicalibus stellatis ovalibus petiolatis, caulinis lineari-oblongis sessilibus acutis acuminatisque, sepalis lateralibus erectis filiformi-acuminatis dorsali longioribus, labelli laminâ lanceolatâ obtusâ, appendice penicillatâ, columnæ alis glabris.

Hab. in *N. Hollandia;* ad Portum Jackson, *R. Br.* in Tasmannia, *Gunn,* 357. (*hab. s. sp.*)

Caulis gracilis, palmaris ad pedalem, floridus basi aphyllus.

The Tasmannian plant has the leaves more taper pointed than in specimens from Port Jackson given me by Dr. R. Brown. The acumen of the dorsal sepal is variable in length.

13. Pterostylis revoluta. *R. Brown, Prodr.* 327.

P. " caule unifloro, labelli laminâ apice sensim angustatâ acutâ, appendice penicillatâ, foliolorum lateralium margine interiori medio dilatato crenato inciso."

Hab. in *Nova Hollandia;* ad Portum Jackson, R. Brown.

14. Pterostylis scabrida.

P. foliis in caulem ascendentibus infimis tantùm stellato patentibus ovato-oblongis acutis, bracteâ foliaceâ cucullatâ, sepalis minutissimè pubescentibus basi scabridis lateralium acumine ipsis breviore, labelli laminâ lineari-lanceolatâ obtusâ, appendice apice fimbriatâ.

Hab. in *Tasmanniâ,* ad ripas fluminis nigri, solo udo arenoso humo intermixto, locis densè obumbratis, Nov. et Dec. florens, *Gunn.* 906. (*hab. s. sp. comm. cel. inventor.*)

This and the two next species are less, or little more, than a hand's breadth in height, and are readily recognized by their solitary erect flower supported by a large cucullate bract.

15. Pterostylis furcata.

P. foliis in caulem ascendentibus infimis tantùm stellato-patentibus ovato-lanceolatis acutis, bracteâ foliaceâ cucullatâ ovario breviore aut parùm longiore, sepalis glaberrimis lateralium acumine ipsis longiore, labelli laminâ lineari obtusâ, appendice apice fimbriatâ.

Hab. in *Tasmanniâ.* (*hab. s. sp. a cel. Gunn,* 602.)

16. Pterostylis cucullata. *R. Br. Prodr.* 327.

P. foliis ovalibus acutis vel in caulem ascendentibus v. omninò radicalibus, bracteâ foliaceâ cucullatâ, sepalis extùs tomentosis lateralibus acutis galeæ subæqualibus, labelli laminâ lineari obtusâ glabrâ, appendice apice fimbriatâ.

Hab. in *Tasmanniâ*; in solo fertili argillaceo, florens Sept. Oct. Nov.; nec non prope Circular Head in collibus arenosis, ubi omninò pygmæa, *Gunn,* 904, 905, 355. (*hab. s. sp. a cel. Gunn.*)

17. Pterostylis dubia. *R. Br. Prodr.* 328.

P. "foliis radicalibus . . . ? caulinis duobus, florali pedunculo breviore, perianthio pubescentulo, labelli laminâ integrâ appendice penicillatâ."

Hab. in *Nova Hollandia,* R. Brown.

§ 4. *Foliis omnibus radicalibus stellatis, caule multifloro vaginato.*

18. Pterostylis mutica. *R. Brown, Prodr.* 328.

P. foliis radicalibus stellatis, racemo spirali, labiis calycis obtusiusculis, labelli laminâ oblongâ membranaceâ unguiculatâ.

Hab. in *Nov. Hollandia*; ad Portum Jackson, *R. Brown*; in sylvis apertis per coloniam, florens Sept. *A. Cunningham*; in Tasmannia, in collibus arenosis juxta Circular Head, alibique, copiosè, Oct.; in solo argillaceo pingui, Nov. *Gunn,* 900, 901, 605. (*hab. s. sp.*)

The labellum of this species being vertical when at rest, displaying the small black appendage to view, its sudden elastic spring upwards to cover the orifice of the flower is very obvious. It resumes its old position after a time. *R. Gunn.*

19. Pterostylis gibbosa. *R. Br. Prodr.* 328.

P. foliis radicalibus stellatis, vaginis scapi distantibus, labiis calycis acuminatis, labelli laminâ crassiusculâ basi utrinque unisetâ supra nudâ.

Hab. in *Nova Hollandia,* prope Portum Jackson, *R. Brown.* (*hab. s. sp. a cel. inventore.*)

20. Pterostylis rufa. *R. Br. Prodr.* 327.

P. foliis radicalibus stellatis, vaginis scapi remotis, labiis calycis acuminatis, labelli laminâ crassiusculâ obtusâ indivisâ ciliatâ.

Hab. in *Nova Hollandia*; prope Portum Jackson, *R. Brown*; in coloniæ terris interioribus, *Mitchell.* (*hab. s. sp.*)

§ 5. *Foliis omnibus radicalibus stellatis, caule unifloro vaginato.*

21. Pterostylis curta. *R. Br. Prodr.* 326. *Guillem. ic. lith. t.* 2. *Bot. Mag.* 58. *t.* 3086.

P. foliis radicalibus stellatis, bracteis scapi præter floralem 2-3, flore

erectiusculo, labio calycis inferiore galeâ acutiusculâ breviore, labelli laminâ lineari-oblongâ obtusâ supra carinatâ, appendice bifidâ fimbriatâ.

Hab. in *Nova Hollandia ;* prope Portum Jackson, *R. Brown ;* in Tasmanniâ, *Gunn,* 600. (*hab. s. sp.*)

22. Pterostylis nutans. *R. Br. Prodr.* 327. *Bot. Mag.* 58. *t.* 3085.

P. " foliis radicalibus stellatis, flore nutante, labiis longitudine subæqualibus, galeâ acuminatâ, labello apice attenuato truncato."

Hab. in *N Hollandia ;* prope Portum Jackson, *R. Brown, Sieber* 155 ; in Tasmanniâ, sabulo sterili prope Circular Head, Sept.—Dec. *Gunn,* 604. (*hab. s. sp.*)

This plant varies in the length of the petioles, and in the distance between the flower and the bract, which is usually immediately under the ovary, but sometimes separated from it by a considerable interval. Mr. Gunn finds the labellum irritable.

23. Pterostylis concinna. *R. Br. Prodr.* 326. *Hooker, Bot. Journ.* 1. 274. *t.* 136. *Bot. Mag.* 62. *t.* 3400.

P. " foliis radicalibus stellatis, scapo medio unibracteato, labelli laminâ emarginatâ inclusâ columnam æquante."

P. acuminata. *Sieb. Herb. Nov. Holl. no.* 157.

Hab. in *Nova Hollandia ;* prope Portum Jackson, *R. Brown,* ad valleculalarum margines, *A. Cunningham,* etiam prope Sidney, *Id.* (*hab. s. sp.*)

24. Pterostylis acuminata. *R. Br. Prodr.* 326. *Bot. Mag.* 62. *t.* 3401.

P. foliis radicalibus stellatis, bracteâ scapi præter floralem unicâ, flore erectiusculo, labio inferiore parùm longiore galeâ acuminatâ, labelli laminâ integrâ apice attenuatâ exsertâ columnam superante.

Hab. in *Nova Hollandia,* prope Portum Jackson, *R. Brown.* (*hab. s. sp. a cel. invent.*)

25. Pterostylis pedunculata. *R. Br. Prodr.* 327.

P. " foliis radicalibus stellatis, bracteâ scapi præter floralem pedunculo aliquoties breviorem unicâ, flore erectiusculo glabro, labio inferiore multò longiore galeâ acutiusculâ, labello integro incluso obtusiusculo columnâ breviore."

Hab. in *Tasmanniâ ;* prope Circular Head vulgaris, in solo argillaceo inter gramina, Sept.—Nov. *Gunn,* 629. (*hab. s. sp.*)

26. Pterostylis nana. *R. Br. Prodr.* 327.

P. " foliis radicalibus stellatis ovatis acutis petiolo parùm longioribus, scapo pubescentulo, flore erecto, labio inferiore longiore galeâ acutiusculâ, labello lanceolato integro."

Hab. in *Tasmanniâ ;* in arenâ sterili quartzosâ, infrequens, circa Circular Head et Woolworth, Oct. *Gunn,* 902. (*hab. s. sp.*)

27. Pterostylis ophioglossa. *R. Br. Prodr.* 326.

P. " foliis radicalibus stellatis, scapo medio ebracteato, labelli laminâ emarginatâ columnam superante apice exserto."

Hab. in *Nova Hollandia*; prope Portum Jackson, nec non intra tropicos, R. Brown.

§ 6. *Folia omninò nulla, nisi scapi vaginæ squamæformes.*

28. Pterostylis aphylla.

P. scapi 1-2-flori squamis præter floralem 2-3 acutis apice patulis, calycis labio inferiore cuneato acute bifido superiore acuto petalis apice incurvis obtusis breviore, labello lineari obtuso; appendice bifidâ fimbriatâ, columnæ alis ciliatis apice setiferis, stigmatis labiis inferioribus auriculæ-formibus.

Hab. in *Tasmanniâ*; juxta Circular Head frequens, in sabuletis sterilibus, hieme udis, fruticibus Myrtaceis Epacridaceis Endogenisque plurimis abundantibus, vix autem graminosis, Dec. *Gunn*, 903. (*hab. s. sp. a cel. inventore.*)

A very small plant, only a few inches high, and apparently destitute of any other leaves than some small scales upon its slender stem.

CCXIX. LYPERANTHUS.

Lyperanthus. *Brown Prodr.* 1, 325. *Endl. gen. no* 1596.

Perianthium ringens, extùs eglandulosum, sepalo postico fornicato, lateralibus petalisque planiusculis angustis subæqualibus. Labellum brevius, marginibus ascendentibus semicucullatum, apice angustatum, disco glandulosum. Columna linearis. Pollinia 4.——Herbæ Australasicæ, terrestres, glabræ, tubercula cum radicibus gerentes. Caulis juxta basin unifolius. Scapus vaginatus. Racemi secundi, floribus atrorufis.

1. Lyperanthus nigricans. *R. Brown Prodr.* 325. *Endlich. Iconogr. gen. t.* 1596.

L. folio cordato-ovato, sepalis petalisque linearibus in labium tetraphyllum deflexis, labello crispo inciso obtuso apice revoluto disco papilloso.

Hab. in *N. Hollandia*; ad Portum Jackson, in ericetis aridis sabulosis, prope Sydney et Paramatta, Nov. *A. Cunningham*; nec non ad Swan River, *Drummond*. (*hab. s. sp.*)

Radices villosæ. Caulis palmaris ad pedalem, vaginis pluribus cucullatis vestitus. Racemus 2-5-florus, internodiis flexuosis floribus longioribus. Tota planta siccatione nigrescit.

2. Lyperanthus ellipticus. *R. Brown, Prodr.* 325.

L. " folio lanceolato-elliptico, labelli disco papuloso: marginibus nudis."

Hab. in *N. Hollandia*; ad Portum Jackson, R. Brown.

3. Lyperanthus suaveolens. *R. Brown, Prodr.* 325.

L. folio lineari elongato, labio calycis inferiore diphyllo, petalis adscendentibus, labelli disco glandulis seriatis sessilibus, marginibus nudis.

Hab. in *N. Hollandia*; ad Portum Jackson, *R. Brown*, in sylvis sabulosis per totam coloniam, etiam occidentem versus, *A. Cunningham*. (*hab. s. sp.*)

Caulis pedalis ad sesquipedalem. Folium gramineum caulis longitudine. Racemus secundus 3-6-florus. Flores fœnum novum redolent. Siccatione haud nigrescit.

4. Lyperanthus serratus.

L. folio lineari elongato, labio calycis inferiore diphyllo, petalis adscendentibus, labello apice serrato disci glandulis seriatis conicis sessilibus marginibus muricatis et papillosis.

Hab. in *N. Hollandia* occidentali, ad Swan River, *Drummond*. (*hab. s. sp.*)

This has, when dried, so much the appearance of *L. suaveolens*, that I mistook it for that species. It is however a much stouter plant; and, as will be seen by the above character, the labellum is altogether different.

CCXX. CORYSANTHES.

Corysanthes. *Brown Prodr.* 1. 328. *Endlich. genera no.* 1597. Corybas. *Salisb. parad. Lond.* *t.* 83. Calcearia. *Blume Bijdr.* 417. *t. xxxiii.* *Endlich. gen. no.* 1599.

Perianthium ringens. Sepalum supremum maximum, galeatum; lateralia angustissima, nana, basi connata, labello occultata. Petala angustissima, nana, labello tecta. Labellum maximum, cucullatum v. tubulosum. Anthera unilocularis, semibivalvis, persistens. Pollinia 4.——Herbæ Australasicæ, et Javanicæ, pusillæ, glabræ. Folium radicale unicum, subrotundum, quandoque sublobatum. Flos maximus, subsessilis, saturatè rufus.

Endlicher has two sub-genera, of which one, *Steleocorys*, has an unguiculate helmet, and an ecalcarate labellum, and contains *C. unguiculata* only; the other, *Corybas* receives the bicalcarate species. To the latter I refer Calcearia of Blume, which has the same habit, and for which I find no sufficient distinctive mark.

1. Corysanthes fimbriata. *R. Br. Prodr.* 328. *Id. in Flinders' Voyage, App. c. ic.*

C. flore sessili folio multò minore, labello ecalcarato infrà cucullato suprà dilatato, disco glabro marginibus inflexis fimbriatis, galeâ curvatâ apice obtusâ. *R. Cunningham in N. S. Wales, Magazine, no.* 1.

Hab. in *N. Hollandia,* in fissuris rupium in orâ prope Portum Jackson, nec non sub umbra saxorum Paramattæ Nov. & Dec. *Cunningham,* (*hab. s. sp.*)

2. Corysanthes pruinosa. *R. Cunningh. l. c.*

C. "labello ecalcarato infrà cucullato suprà dilatato disco hirsuto marginibus inflexis fimbriatis, galeâ basi attenuatâ erecta, apice mucronatâ."

Hab. in *N. Hollandia,* prope Sydney, R. Cunningham.

3. Coryanthes diemenica.

C. flore pedunculato sæpiùs folio majore, labello ecalcarato cucullato dentato basi convoluto, galeâ obtusâ rotundatâ inflexâ.

Hab. in *Tasmanniâ,* juxta Circular Head vulgaris, Junio et Julio, (medio

hyeme) florens, inter folia putrida, &c. in solo lævi argillaceo, *Gunn*, 614 (*hab. s. sp. comm. cel. inventor.*)

Flowers dark purple; the helmet gives the plant the appearance of a snail, *Gunn*. Very near *C. fimbriata*, from which it seems to differ in having much larger flowers; perhaps it is only a southern variety.

4. Corysanthes unguiculata. *R. Br. Prodr.* 328. *Endl. ic. gen. t.* 1597.

C. labello ecalcarato convoluto medio glandulis cristato apice aperto obliquo, galeâ unguiculatâ, flore pendulo.

Hab. in *N. Hollandia*, prope Sydney in præruptis et inter saxa, Maio. *R. Cunningham.* (*hab. s. sp.*)

§ Corybas.

Corybas. *Salisb.* Calcearia. *Blume.*

Labellum basi bicalcaratum.

5. Corysanthes bicalcarata. *R. Brown Prodr.* 328.

C. "labello tubuloso; apicis dilatati marginibus reflexis; basi bicalcaratâ.

Corybas aconitiflorus. *Salisb. parad.* 83.

Hab. in *Nova Hollandia*; prope Portum Jackson, rarissimè, R. Brown.

6. Corysanthes undulata. *R. Cunningh. l. c.*

C. "labello basi bicalcarato infrà cucullato suprâ dilatato; marginibus inflexis undulatis."

Hab. in *N. Hollandia*; prope Sydney, R. Cunningham.

7. Corysanthes picta.

C. labello cucullato bicalcarato apice rotundato denticulato intùs bicalloso, sepalo supremo cuneato-subbilobo apiculato, lateralibus petalisque longissimis.

Calcearia picta. *Blume l. c. tab. xxxiii. ic. dextr.*

Hab. in *Java*; in cacumine montis Salak locis humidis, Blume.

8. Corysanthes fornicata.

C. labello bicalcarato acuto denticulato intùs bicalloso, sepalo supremo lineari-obovato apice rotundato fornicato, lateralibus petalisque labelli longitudine.

Calcearia fornicata. *Blume l. c. t. xxxiii. ic. sinistr.*

Hab. in *Java*, Blume.

As far as I can collect from the descriptions and figures of Blume, the two Java species of this genus have the following characters in common.

Herbæ terrestres, Javanicæ, tuberosæ. Folia radicalia, cordata, reticulata, nervosa, membranacea. Flores solitarii, sessiles, 1-bracteati, purpurei. Perianthium ringens. Sepalum supremum oblongum, fornicatum; lateralia cum petalis angustissima, subulata. Labellum petaloideum, liberum basi columnam amplectens, bisaccatum; limbo patente subbilobo intùs bicalloso. Columna nana, carnosa, stigmate totam faciem occupante. Anthera terminalis, unilocularis. Pollinia duo, biloba.

CCXXI. MICROTIS.

Microtis. *Brown Prodr.* 1. 320. *Endl. gen. no.* 1588.

Perianthium ringens, sepalo supremo galeato, lateralibus sessilibus labello suppositis. Petala angustiora, ascendentia. Labellum oblongum, obtusum, sessile vel unguiculatum, integerrimum vel lobatum, basi callosum. Columna nana, teres, apice utrinque auriculata. Anthera subrotunda, mutica. Pollinia 4.———Herbæ terrestres, glabræ, Australasicæ. Bulbi indivisi, nudi. Folium caulinum unicum, fistulosum, teres, basi vaginans. Flores herbacei, spicati, parvi, nunc albi.

1. Microtis parviflora. *R. Br. Prodr.* 321. *Bot. Mag. t.* 3377. *Endl. ic. gen. t.* 1588.

M. sepalis lateralibus revolutis petalisque linearibus obtusis, labello ovato acuto margine nudo apice tenui basi utrinque callis verrucosis aucto, spicæ floribus omnibus approximatis.

Hab. in *N. Hollandia;* juxta Portum Jackson, in orâ australi nec non inter tropica, R. Brown; in sylvis depressis humidis solo argillaceo, A. Cunningham.

2. Microtis atrata. *Lindl. Swan. Riv. App. no.* 261.

M. folio basi cucullato caule longiore, spicâ densâ cylindraceâ, sepalis lateralibus oblongis revolutis supremo subrotundo, petalis ovatis acutis, labello oblongo obtuso nudo.

Hab. in *N. Hollandia* occidentali, ad Swan River, *Drummond.* (*hab. s. sp.*)

Flowers very small, almost black when dried. The smallest species of the genus.

3. Microtis porrifolia. *Spreng. syst. veg.* 3. 713.

M. sepalis acutis patulis, petalis obovato-linearibus, labello obovato-oblongo retuso basi bicalloso margine tuberculato-incrassato, spicæ floribus inferioribus distantibus.

Ophrys unifolia. *Forst. Prodr. n.* 311.
Epipactis porrifolia. *Swartz. in act. Holm.* 1800. *p.* 233.
M. Banksii. *A. Cunn. in Bot. Mag. sub. t.* 3377. *compan.* 2. 376.

In *N. Zelandiæ* filicetis apertis, inter sinum Insularum et Wangaroa, Banks, *Forster,* A Cunningham. (*v. s. sp. in hb. Lamb.*)

Perianthium ringens; sepalis ovatis acutis, lateralibus labello suppositis, superiore multò majore erecto galeato; petalis minoribus obtusis. Labellum oblongum, margine crispum et crassum, apice cuneatum emarginatum, basi bicallosum. Columna teres, minuta, apice utrinque auriculata; *ad sicc.*

4. Microtis pulchella. *R. Brown Prodr.* 321.

M. sepalis lateralibus petalisque ovali oblongis patentibus obtusiusculis, galeâ planiusculâ, labello oblongo obtuso crispo emarginato nudo callis baseos confluentibus concavis.

? β, *vivax;* sepalis petalisque acutis.

Hab. in *N. Hollandiæ* orâ meridionali, R. Br.; in sinu Regis Georgii, *F. Bauer;* Tasmannia, *a.* in locis humidis Dec., β. in solo arenaceo argillaceo Nov. *Gunn,* 918, 915, (*hab. s. sp. comm. cel. Gunn.*)

The following are Mr. Gunn's notes upon the plants, which I have for the present regarded as varieties of each other.

When collecting the various kinds of Microtis, during a period of two or three months, in an immense number of localities, I imagined I perceived obvious differences in the size of the upper sepals, the lip, and other parts, but when dried, the change of colour and shrivelled state, from their usual succulent appearance, alters them so much, that I candidly confess myself puzzled.

The variety β. is common at Circular Head, flowering in all November; soil a light loam, approaching to sandy. It is very difficult to dry, many being two months. Numerous specimens threw out a small tuber at the bottom, in the papers. The number of species of Microtis are more numerous than I at first supposed, and I anticipate many other species in other parts of the colony.

5. MICROTIS arenaria.

M. sepalis lateralibus linearibus revolutis obtusis dorsali orbiculatâ acuminatâ galeatâ, petalis filiformibus obtusis, labello oblongo truncato apiculato plano medio carnoso : callis baseos confluentibus concavis.

Hab. in *Tasmannia* in sabulo juxta mare sub fine Dec. *Gunn,* 916. (*hab. s. sp. comm. cel. inventor.*)

Of a stouter habit than *M. pulchella vivax.* Collected in sand near the sea in the end of December. Fresh water appeared to percolate through from behind the neighbouring sand hills, *Gunn.*

6. MICROTIS rara. *R. Brown Prodr.* 321.

M. sepalis lateralibus revolutis petalisque linearibus acutis, labello oblongo-cuneato retuso infra apicem calloso margine subundulato nudo, baseos callis confluentibus, spicæ floribus inferioribus distantibus.

Hab. in *N. Hollandia,* prope Portum Jackson, R. Brown ; ora meridionali, nec non in Tasmannia in paludosis abundè, Dec. et Januario florida, *Gunn,* 917. (*hab. s. sp. comm. cel. Gunn, &c.*)

7. MICROTIS media. *R. Br. Prodr.* 321. *Bot. Mag. t.* 3378.

M. sepalis lateralibus revolutis oblongis acutis, petalis linearibus obtusis, labello oblongo-cuneato truncato verrucis globosis granulosis marginato basi utrinque incrassato disco bicalloso.

Hab. in *N. Hollandiæ* ora meridionali, R. Brown ; austro-occidentali, Cunningham.

8. MICROTIS alba. *R. Brown Prodr.* 321.

M. sepalis lateralibus revolutis linearibus acutis, petalis obovato-linearibus obtusis, labelli dimidiâ inferiore lineari superiore dilatatâ bifidâ : disco incrassatâ marginibus undulatis calloso-tuberculatis.

Hab. in *N. Hollandiæ* orâ meridionali R. Brown ; occidentali ad Swan River, *Drummond ;* in sinu regis Georgii, *Collie.* (*hab. s. sp.*)

CCXXII. ACIANTHUS.

Acianthus. *R. Br. Prodr.* 1. 321. *Supra p.* 24.

Sepala subringentia, acuminatissima, libera : lateralibus labello suppositis.

Petala minora, acuminata. Labellum liberum, integrum, basi bicallosum. Columna semiteres, clavata. Anthera terminalis, recumbens, bilocularis. Stigma ovatum, prominens, transversum. Pollinia 8, subpulverea.——Herbæ teneræ, glabellæ. Tubercula indivisa solitaria nuda, novello pedicellato. Caulis unifolius, ad ipsam basin vaginâ brevi inclusus, supernè ebracteatus. Folium profundè cordatum, reticulato-venosum, subtus rufum. Flores racemosi, v. solitarii, rufi, aut purpurei.

I formerly included this genus among Malaxideæ, partly on account of its resemblance in habit to Liparis, and partly because of the firmness of the pollen masses. Its relation to Cyrtostylis is however so great, and the cohesion between the particles of pollen is so slight that it seems better upon the whole to place it here. There can, however, be no doubt that this genus, and Cyrtostylis, connect the sections of Arethuseæ and Malaxideæ, as I have already stated, p. 25.

1. ACIANTHUS exsertus. *R. Brown Prodr.* 321.

A. floribus racemosis, aristis brevissimis, galeâ basi attenuatâ, petalis horizontaliter reflexis, labello apice papuloso, columnâ exsertâ.

Hab. ad Portum Jackson *Novæ Hollandiæ*, R. Brown; cum A. fornicato *A. Cunningham;* nec non in Tasmannia in solo lævi argillaceo, medio hyeme (Jun.—Jul.) florens. *Gunn* 752. (*hab. s. sp.*)

2. ACIANTHUS fornicatus. *R. Brown Prodr.* 321. *Endl. ic. gen. t.* 1589.

A. floribus racemosis, aristis perianthio quadruplò brevioribus, petalis erectiusculis, labello longitudinaliter papuloso, columnâ inclusâ.

Hab. ad Portum Jackson *Novæ Hollandiæ*, *R. Brown,* in præruptis obumbratis abundè, *A. Cunningham.* (*hab. s. sp.*)

3. ACIANTHUS caudatus. *R. Brown Prodr.* 321.

A. scapo 1-2-floro, aristis longissimis, folii marginibus undulatis.

β, *ater;* folio minùs undulato subrepando, aristis brevioribus et latioribus.

Hab. ad Portum Jackson *Novæ Hollandiæ*, R. Brown, in præruptis umbrosis ad littus Junio flor. rarò, *R. Cunningham,* β in Tasmannia juxta Woolnorth, Oct. *Gunn.* 758. (*hab. s. sp.*)

The plant found in Van Diemen's land by Mr. Gunn has larger flowers than that of Port Jackson, with shorter aristæ, and may be a distinct species. I have given it to some of my friends under the name of *A. ater.* Mr. Gunn says that its small size and dark colour cause it to be readily overlooked.

4. ACIANTHUS rivularis. *A. Cunningh. in Bot. Mag. Compan.* 2. 376.

A. caule unifloro folio breviore, sepalis lateralibus petalisque longissimè et tenuissimè aristatis, galeâ acuminatâ, labello cordato acuminato venoso disco papilloso margine tenuissimè eroso-crenulato.

Hab. in *N. Zelandia,* prope Wangaroam, inter muscos in alveo rivuli saxoso inter rupes altas fluentis, Nov. *R. Cunningham.* (*hab. s. sp.*)

A most rare and curious little plant, only a few inches high, with the largest flowers known in the genus.

CCXXIII. CYRTOSTYLIS.

Cyrtostylis. *Brown Prodr.* 1. 322. *Endl. gen. no.* 1590.

Perianthium herbaceum, bilabiatum. Sepalum supremum erectum, galeatum; lateralia cum petalis linearia labello supposita. Labellum unguiculatum, indivisum, planum, basi bicallosum, lineis duabus elevatis. Columna elongata, apice incurva, dilatata, auriculata, basi semiteres. Anthera terminalis, bilocularis, persistens. Pollinia 4.——— Herba terrestris Australasica, tuberculis solitariis sphæricis, cauliculum descendentem radiciformem terminantibus. Caulis unifolius. Folium tenerum, membranaceum, amplexicaule, reticulatum. Scapus nudus. Racemus secundus pauciflorus. Bracteæ squamæformes.

1. Cyrtostylis reniformis. *R. Brown Prodr.* 322.

Hab. in *N. Hollandiâ;* prope Portum Jackson *R. Brown,* in rupestribus siccis per omnem coloniam *A. Cunningham,* in sinu regis Georgii *Collie,* in Tasmannia in solo fertili, abundè Sept. et Oct. florens, *Gunn* 615, ad Swan River, *Drummond.* (*hab. s. sp.*)

This little plant has quite the habit of a *Liparis liliifolia,* and varies in size from the height of two inches, with a single flower only, to that of 6 or 7 inches, with 4 or 5 flowers. The Swan River plant has a narrower lip, and may be a distinct species.

CCXXIV. LIMODORUM.

Limodorum. *Tourn. inst.* 437. *L. C. Richard Orch. Eur. Annot.* 20. *Nees. jun. gen. plant. fasc. V. t.* 11. *Endlicher. gen. no.* 1607.

Perianthium galeatum. Sepala æqualia. Petala breviora et multò angustiora. Labellum ascendens, basi calcaratum, columnam amplectens, limbo articulato indiviso. Columna elongata, semiteres, stigmate subrotundo. Anthera subcordata, cernua. Pollinia 2, integra.———Herba australi-europæa, aphylla, radice fibrosâ. Scapus vaginatus. Spica elongata, laxiuscula.

In Persoon's synopsis (2. 513) this plant, with the doubtful *Serapias erecta* and *falcata* of Thunberg, are formed into a subgenus called Herminium.

1. Limodorum abortivum. *Swartz Act. Holm.* 6. *p.* 80. *Willd. Sp. Pl.* 4. 129. *Nees ab Esenb. gen. germ. l. c.*

Orchis abortiva. *Linn. Sp. Pl.* 1336. *Jacq. fl. Austr. t.* 193.
Epipactis aphylla &c. *Hall. Helv t.* 36.
Serapias abortiva. *Pers. syn.*
Limod. sphærolabium. *Viv. in Rchb. Ic. Bot. Eur. Cent. IV. comment. p.* 82.

Hab. in Galliæ, Helvetiæ, Italiæ, Germaniæ, Corsicæ, sylvis umbrosis. (*hab. s. sp.*)

Flowers purple. Stem from 1 to 2 feet high. I do not see in what the L. sphærolabium of Viviani differs from this; he says its lip is rounded, not ovate or elliptical, but as the remainder of his specific character agrees altogether with *L. abortivum,* of which this supposed species has all the

habit, it may be safely considered an accidental form of that well known plant.

CCXXV. CHLORÆA.

Chloræa. *Lindl. in Brande's Journal, March,* 1827. *Pöppig n. g. et sp.* 1. 28. Asarca. *Lindl. l. c. non Pöppig.*

Perianthium ringens, basi obliquum, petalis sepalo supremo suppositis et galeam referentibus. Sepala lateralia basi producta sed vix gibbosa, apice sæpiùs callosa. Labellum unguiculatum, cordatum, cucullatum, membranaceum, integrum aut trilobum, lobo medio lateralibus parùm angustiore, venis sæpius cristatis aut glandulosis. Columna erecta, membranaceo-marginata, clavata, petalis ferè æqualis iisque dorso adnata, anticè utrinque producta. Stigma oblongum, prominens. Anthera terminalis, opercularis, semiquadrilocularis. Pollinia 4, vel 2 bipartita. ———Herbæ terrestres Americæ australis extra tropicam, radicibus fasciculatis carnosis (gummoso-farinaceis *Pöppig.*). Folia radicalia. Scapus vaginatus. Racemi densi, multiflori. Flores " sæpe permagni, speciosi, albidi, virescentes, flavidi, vel crocei, nunquam purpurei," colore nigro nonnunquam adjecto. " Odor nonnullis aromaticus."

This genus is now limited better than when I first published it in the year 1827. The discoveries of Mr. Pöppig, and the opportunities he has had of examining the species in a living state, have shewn that a part of my Chloreas properly form a new genus, and that Asarca as I originally defined it must be merged in Chloræa. See Asarca.

§ 1. Labellum integrum v. obsoletè trilobum.

a. *Labelli venæ omnes pariter lamellatæ v. setosæ.*

1. Chloræa speciosa. *Pöppig.* 1. 28. *t.* 46.

C. labello integro rhombeo: cristis ancipitibus setoso-ciliatis ad apicem usque excurrentibus, sepalis lanceolatis spiralibus revolutis, petalis oblongis obtusis nudis quam sepalum posticum latioribus, spicâ pauciflorâ.

Hab. in *Chile australis* pratis pulcherrimis alpinis ad vicum Antuco, 5-6000 ped. elevat. ab incolis " *Azuzena del campo,*" i. e. planta liliacea, dicta. Floret Octobre; Pöppig.

Sweet-scented. Scape a foot to 15 inches high. Flowers large, milk-white, Pöppig.

2. Chloræa barbata. *Lindl. in Hook. Journ. Bot.* 1. 5.

C. labello ovato indiviso: marginibus laceris per faciem totam setis creberrimis cristato basi unguiculato tuberculato, sepalis lateralibus lineari-lanceolatis obtusis, petalis oblongo-linearibus obliquis margine anteriore venisque papillosis.

Hab. in *Chile* prope Valparaiso, *Cuming.* (*hab. s. sp.*)

3. Chloræa campestris. *Pöppig.* 1. 29. *t.* 49.

C. labello integro elliptico-lanceolato raritèr cartilagineo-dentato: setis pinnatìm seriatis tecto, sepalis lineari-lanceolatis lateralibus apice tereti incrassatis, petalis falcatis, spicâ elongatâ multiflorâ.

Hab. vulgaris in *terris Chilensibus* interioribus locis glareosis, v. c. in planitie ad Casablanca, ad urbem S. Jago, inque provincia Concepcion ad Andes usque. Floret a Novembre in Januarium; Pöppig. (*hab. s. sp. comm. cel. Hooker.*)

Scape sometimes as much as two feet high. Flowers from 20 to 40. Flowers very small for the genus, white, with green netted veins, according to Pöppig.

4. Chloræa cuneata.

C. labello cuneato apice grossè dentato ad latera integro lamellis 6 percurso quarum centrales interruptæ et papillis 2-3 in septimæ loco, sepalis petalisque membranaceis nudis.

Hab. in *Chile, Cuming*? (*hab. s. sp.*)

This very distinct species exists in my Herbarium, with Mr. Cuming's name attached to it; but it has no number and may possibly have belonged to the dried plants of some other collector. It is a tall slender species, apparently with white flowers.

5. Chloræa longipetala.

C. labello membranaceo obovato obtusissimo integro basi multilamellato venis 5 appendicibus falcatis interruptè cristatis, sepalis lateralibus lanceolatis basi angustatis apice acuminatis callosis, petalis oblongo-lanceolatis obtusis falcatis venis basi callosis.

Hab. in *Chile australi, Reynolds*, (*v. s. sp. in hb. Hooker*).

Flores 5 6, magni, ringentes. Scapus palmaris. Sepala lateralia ipso apice tantum callosa; supremum obtusum apice inflexum.

This is very near *C. viridiflora*, from which it differs in the form of the lip, and in the broken lamellæ which form the crests of the veins being regularly disposed and very few in number.

b. *Labelli venæ centrales ultra medium lamellatæ v. cristatæ.*

6. Chloræa Piquichen.

C. labello oblongo inciso-dentato: venis 7 centralibus appendicibus falcatis cristatis, sepalis lateralibus apice rotundatis discoloribus, petalorum venis basi varicosis.

Epipactis flore virescente et variegato vulgò Piquichen. *Feuillée t.* 19.
Cymbidium virescens. *Willd. sp. pl.* 4. 106.

Hab. in *Chile*. (*hab. s. sp. comm. cel. Solly.*)

This plant, of which I have only seen one solitary specimen, agrees exactly with Feuillée's figure, and is certainly distinct from all the others now mentioned. It approaches nearest to *C. barbata*, from which it differs both in habit and in the 7 central veins of the lip only being crested, in the veins of the petals being very much less varicose, and in the lip having no tubercles at the base.

7. Chloræa lamellata. *Lindl. in Brande's Journ. March.* 1827.

C. labello oblongo obtuso crenato juxta marginem verrucoso: venis 7 centralibus appendicibus falcatis cristatis, sepalis lateralibus apice concavis incrassatis, petalis nudis brevioribus.

Hab. in *Chile*, prope Concepcion, *Macrae.* (*hab. s. sp.*)

This plant varies in the form of the lamellæ, which crest the middle of the lip, and in their size, and is perhaps a mere variety of C. multiflora, of which it has all the habit; but its labellum is very differently formed.

It is probably the plant whose lip is represented at fig. 3, t. 55, of Pöppig's book as a variety of his *C. decipiens*, my *C. multiflora*, and I presume it also includes the β and γ of this celebrated botanist.

8. CHLORÆA multiflora. *Lindl. in Brande's Journ. March.* 1827.

C. labello subrhombeo obtuso basi integerrimo ultra medium crenulato juxta margines papilloso venarum centralium appendicibus distantibus falcatis in tuberculos cis apicem mutatis, sepalis lateralibus apice incrassatis, petalis nudis.

C. decipiens. *Poppig.* 1. 31. *t.* 55. *excl. fig.* 3.

Hab. in *Chile;* in totius agri campis montosis aridis, vere florens, Pöppig; prope Valparaiso, Septembr. *Mathews,* Februario, *Macrae.* (*hab. s. sp.*)

According to Pöppig, this plant is very variable in the size and colour of the flowers, which are in some varieties white, in others yellow, and also in the height of the scape and the form of the lip; of such supposed varieties he enumerates 5. But I have stated under the last species that his β and γ appear to belong to *C. lamellata*, and I believe his ε is C. crispa, a most distinct plant.

According to a note by Mr. Mathews in my herbarium, this is the *Pica de Loro* of the Chilenos.

9. CHLORÆA cristata. *Lindl. in Hook. Journ. Bot.* 1. 4.

C. labelli subrhomboidei lateribus inferioribus rotundatis verrucosis integerrimis superioribus laceris: venis centralibus ad apicem usque creberrimè glandulosis, sepalis lateralibus apice concavis incrassatis, petalis acutis nudis.

Hab. in *Chile,* prope Valparaiso, *Cuming.* (*hab. s. sp.*)

This also would probably be regarded by Pöppig as a variety of *C. multiflora:* its lip is however so different, that I cannot think it right to join them. It is possibly his C. decipiens δ, "floribus candidis, labello magis anguloso, cristis elevatis ancipitibus apice setigeris," which he himself suspects to be a distinct species.

10. CHLORÆA crispa.

C. labello subrotundo-oblongo apice crispo nudo basi subintegro et pone margines papilloso, venis centralibus 7-9 setosis, sepalis lateralibus apice vix incrassatis, petalis acutis parùm brevioribus basi granulosis.

C. decipiens ε. *Pöppig. l. c. p.* 32 ?
Cymbidium luteum. *Willd. sp. pl. no.* 45.
Epipactis Gavilu. *Feuillée II. t.* 20.

Hab. in *Chile* prope Concepcion. (*hab. s. sp. comm. cel. Bentham.*)

The only specimens I have seen of this fine species were collected near Concepcion by Lord Colchester, and as exactly answer to Feuillée's figure as it is to be supposed that any plant will; for this reason I presume it to be Pöppig's fifth variety of his *C. decipiens*; from which, however, I conceive it to be quite distinct.

11. CHLORÆA membranacea.

C. labelli oblongi obsoletè trilobi longe unguiculati subglandulosi lobo

intermedio obtuso lateralibus productiore et angustiore axi glandulis clavatis atris cristato, sepalis petalisque omninò nudis valdè membranaceis.

Hab. in *Bonariâ;* in aggeribus argillaceis udis, *Tweedie.* (*hab. s. sp. comm. cel. Hooker.*)

c. *Labelli venæ centrales basi tantùm lamellatæ, cæterùm nudæ, pubescentes v. papillosæ.*

12. CHLORÆA viridiflòra. *Pöppig.* 1. 29. t. 47.

C. labello integro rhombeo obtusè apiculato cristis ancipitibus nudis ad medium usque tecto apice verrucoso, sepalis oblongis infimis deflexis planis, petalis obliquè ovatis quam posticum latioribus, spicâ pauciflorâ.

Hab. in *Chile australis* lapidosis alpinis montis Pico de Pilque ad vicum Antuco. Floret Decembre; Pöppig.

Scape a foot or more high. Flowers deep yellow green, with the veins and points of the lateral sepals deep green. Column crimson at the base; *Pöppig.*

13. CHLORÆA cylindrostachya. *Pöppig.* 1. 30. *t.* 50.

C. labello integro obovato-oblongo sepalis longiore revoluto posticè setoso apice granuloso, sepalo postico ovali acuto infimis spiralibus, petalis angustis falcatis, spicâ multiflorâ.

Hab. in *Chile australis* alpibus elevatioribus, locis saxosis ad pedem montis ignivomi Antucensis. Floret Decembre, Januario; Pöppig.

From 1 to 4 feet high. Spike sometimes bearing more than 50 flowers. Flowers greenish-yellow, with dark green veins; *Pöppig.*

14. CHLORÆA incisa. *Pöppig.* 1. 31. *t.* 54.

C. labello trifido subrotundo grossè inciso-serrato posticè integerrimo disco sulcato lamellato, sepalis linearibus infimis apice incrassatis, petalis verrucosis, spicâ pauciflorâ, floribus distantibus.

Hab. in *Chile australis* campis lapidosis, v. c. ad Antuco, Tucapel, etc. Floret Decembre; Pöppig.

Scape two feet or more high. Flowers 6 to 9, pale chesnut colour, with dull veins; the lateral sepals thickened and blackish at the point. In Chili in summer it is a great ornament of the dried up sterile plains, and is called *Tulipan del campo* according to Pöppig.

d. *Labelli venæ omnes nudæ.*

15. CHLORÆA nudilabia. *Pöppig.* 1. 30. *t.* 52.

C. "labello integro oblongo lateribus angustato ecristato lævi nervoso membranaceo sepalis æqualibus aveniis conformi."

Hab. in *Chile australis* Andibus Antucensibus. In locis rupestribus montis Pico de Pilque, florens Januario; Pöppig.

Flowers bright orange, 8 or 10, distant, in a spike 4 inches long; *Pöppig.*

16. Chloræa grandiflora. *Pöppig.* 1. 29. *t.* 48.

C. labello integro ovato deltoideo apice bidentato crassissimo ecristato densè granuloso, sepalis inæqualibus postico ovali infimis lanceolato-oblongis deflexis, petalis latè ovatis obliquis, spicâ paucIflorâ.

Hab. in *Chile australis* pratis herbidis subalpinis, v. c. in monte La Meseta de Antuco. Floret Decembre; Pöppig.

Scape a foot to 15 inches high; flowers white, with dull green netted veins, smelling of Wallflower.

§ 2. Labellum manifestè trilobum.

a. *Labelli venæ omnes paritèr appendiculatæ.*

17. Chloræa aurantiaca.

C. labelli trilobi basi angustati lobis ovatis rotundatis venis omnibus paritèr tuberculatis, sepalis lateralibus retusis, spicæ elongatæ floribus distantibus, bracteis acuminatissimis.

Asarca aurantiaca. *Lindl. in Hook. Journ. Bot.* 1. 4.

Hab. in *Chile*, prope Valparaiso, *Cuming.* (*hab. s. sp.*)

A slender species with flowers rather less than those of C. multiflora. Its stem is two feet high.

b. *Labelli venæ centrales appendicibus conformibus.*

18. Chloræa alpina. *Pöppig.* 1. 30. *t.* 53.

C. labelli trilobi integerrimi lobo intermedio ovato: cristis disci ancipitibus ad apicem continuis; lobis lateralibus nudis, sepalis lanceolatis acutis, petalis spathulato-oblongis, columnâ latissimâ, spicâ paucIflorâ, scapo humili folioso.

Hab. in *Chile australis* alpinis glareosis montis Pico de Pilque in viciniis vicus Antuco. Floret Novembre; Pöppig.

Stem dwarfer than in other species. Flowers 4 or 5, deep yellow, with scarcely any smell. Called by the inhabitants of Antuco *Tulipan del Monte*; according to *Pöppig.* See *C. disoides* no. 23.

19. Chloræa chrysantha. *Pöppig.* 1. 31.

C. labelli rhombeo-oblongi subtrilobi lobo terminali ovato latè et æqualitèr dentato lobis lateralibus integerrimis nudis: setis disci lamellosis falcatis seriatis, sepalis petala excedentibus, scapis laxis foliosis, floribus croceis.

Hab. in convallibus graminosis *Chile borealis,* Augusto florens, nec non in campis lapidosis subandinis provinciarium *australium* ubi ab Octobre ad Februarium floribus ornatur; Pöppig.

Stem often 3 feet high. Flowers deep orange colour, with a deep green net-work, according to *Pöppig.*

20. Chloræa semibarbata.

C. labelli oblongi utrinque rotundati lobis lateralibus intra marginem crenulatum papillosis intermedio multò majore serrato nudo: venarum 5 appendicibus falcatis conformibus, sepalis lateralibus obtusis concavis incrassatis, petalis nudis basi obsoletè varicosis.

Hab. in *Chile australi, Reynolds.* (*hab. s. sp. comm. cel. Hooker.*)

Nearly allied to C. chrysantha from which the form of the lip, which is distinctly papillose within the margin, distinguishes it.

21. Chloræa Pavonii.

C. labelli trilobi venis 5 centralibus glandulis clavatis uniformibus cristatis: lobis lateralibus apice rotundatis undulatis intermedio angustiore oblongo obtuso crispo.

Asarca speciosa. *Lindl. in Brande's Journ. March* 1827.
Serapias Gavilu. *Pavon. in herb. Lambert.*

Hab. in *Chili, Pavon.* (*olìm v. s. sp.*)

This is very different from the Epip. Gavilu of Feuillée; I only know it by the notes formerly made upon it in Mr. Lambert's herbarium, and by my drawing of the labellum, which is quite different from that of any other species now mentioned.

c. *Labelli venæ centrales appendicibus biformibus.*

22. Chloræa virescens. *Lindl. in Brande's Journ. March,* 1827.

C. labelli trilobi lobis ovatis obtusis intermedio duplò majore: venis 9 basi lamellis totidem parallelis æqualibus acutis deindè appendicibus quibusdam elongatis v. falcatis, sepalis apice obtusis concavis incrassatis, petalorum venis varicosis.

Hab. in *Chile,* prope Concepcion, *Cuming.* (*hab. s. sp.*)

23. Chloræa disoides. *Lindl. in Brande's Journ. March,* 1827.

C. foliis acutis scapi longitudine, labelli trilobi lobis lateralibus rotundatis apice incrassatis crenatis intermedio ovato obtuso carnoso disco verrucoso, venis 7 lamellis serratis, sepalis lateralibus apice obtusis incrassatis, petalis nudis.

Hab. in *Chile,* prope Valparaiso, *Cuming, Macrae.* (*hab. s. sp.*)

A dwarf species, with the leaves acute and as long as the scape. I suspect *C. alpina* is the same, for although Pöppig expressly states that beyond the 5 or 7 crests of the lip, which are continuous, there are no glandular appendages in that plant, yet some tubercles are represented in his fig. 2, as existing upon the middle lobe, and the habit of the two species is exactly the same.

24. Chloræa ulanthoides.

C. labelli cuneato-oblongi lobis lateralibus apice serratis intermedio brevi tranverso serrato medio incrassato parum latioribus: venis 5 basi paritèr obscurè lamellatis deindè appendicibus paucis latis falcatis munitis, sepalis lateralibus apice rotundatis planis crenatis discoloribus, petalorum venis incrassatis.

Chloræa bletioides. *Lindl. in Brande's Journ. March,* 1827.

Hab. in *Chile* prope Cumbre, Andium claustrum, Nov. *Macrae;* Valparaiso, *Cuming.* (*hab. s. sp.*)

This is the finest species of the genus, with a stem 2 to 3 feet high and very large flowers apparently white, stained and veined with deep green.

The name of bletioides is so inappropriate that I cannot now account for my having given it to the plant, and I therefore change it. The flowers are more like those of Hooker's Ulantha, when dried.

25. Chloræa affinis. *Lindl. in Hook. Journ. Bot.* 1. 4.

C. labelli ungue lato concavo: limbo subrotundo oblongo 3-lobo; lobis lateralibus integerrimis intermedio productiore rotundato dentato, venis omnibus basi calloso-cristatis deinde tuberculatis, sepalis lateralibus oblongis apice obtusissimis obliquis crenatis, petalis ovato-lanceolatis obtusis basi hinc varicoso-venosis.

Hab. in *Chile*, prope Valparaiso, *Cuming*, (*hab. s. sp.*)

Very near the last species but much more slender, and the flowers are not half the size.

The previous sheet had been printed off when I met with the two following characters of Chloræas by M. Adolphe Brongniart, in *Duperrey's Voyage* p. 189.

26. Chloræa *Gaudichaudii*; caule folioso, foliis lanceolatis acutis erectis, floribus spicatis, bracteis magnis ovato-lanceolatis margine scariosis ovario longioribus involutis, sepalis æqualibus usque ad apicem membranaceis ovato-lanceolatis, petalis subæqualibus obtusis, labello petalis breviore subtrilobo: lobis lateralibus abbreviatis margine fimbriatis laciniis ad apicem incrassatis; lobo medio linguæformi parteque mediâ disci carunculis cuneiformibus elongatis densè tectis, gynostemio labellum subæquante apice dilatato alato.

Arethusa lutea. *Gaudich. in ann. sc. nat.* 5. 101.

Hab, in insulis *Magellanicis*, Gaudichaud, D'Urville, Lesson.

27. Chloræa *Commersonii*; caule folioso, foliis inferioribus oblongo-lanceolatis obtusis superioribus acutioribus cauli adpressis, floribus densè spicatis, bracteis lanceolato-subulatis angustis ovarium subæquantibus, sepalis lanceolatis acutis inferioribus longioribus apice subulatis carnosis, petalis brevioribus obtusis, labello petalis duplò breviore trilobo: lobis lateralibus rotundatis integris medio ovato carunculis densissimè tecto, gynostemio brevissimo alato.

Serapias lutea. *Pers. synops.* 2. 513.

Hab. in sylvis *freti Magellanici* ad sinum Bougainvillei et Gallicum, Commerson.

Unfortunately the only copy of Duperrey's Voyage which I have an opportunity of consulting is deficient of the figures illustrating these plants. It is probable however that *Ch. Gaudichaudii* is a true Chloræa, allied to *C. alpina* if not the same; while *Ch. Commersonii* would appear from its short column to be an Asarca allied to *A. ordoratissima.*

CCXXVI. BIPINNULA.

Bipinnula. *Juss. gen.* 65. *Lindl. in Brande's Journal, March.* 1827. *Endlicher, gen. no.* 1606.

Omnia Chloræ, nisi sepala lateralia elongata pectinata aut multifida; hujus generis sectio tantum si velis; sed florum vultus omninò peculiaris, nec inter Chloræas ullus in talem structuram nixus inveniendus.

1. Bipinnula Commersonii. *Lindl. in Brande's Journ. March.* 1827.

B. caule unifloro, sepalis lateralibus pinnatis; laciniis brevibus clavatis.

Arethusa biplumata. *Linn. Suppl.* 105. *Smith, ic. t.* 23.
Bipinnula bonariensis. *Spreng. syst.* 3. 745.

Hab. in agro *Bonariensi*, Jussieu.

Of this rare plant I have seen no specimen: but it is evidently very distinct from the two other species of the genus.

2. Bipinnula plumosa. *Lindl. in Brande's Journ. March,* 1827.

B. spicâ multiflorâ, sepalis lateralibus acuminatissimis pinnatis; laciniis filiformibus elongatis, labelli margine multipartito inciso.

Hab. in *Chile*, ad Colinæ balneos, *Macrae.* (*hab. s. sp.*)

Stem 1½ to 2 feet high; lateral sepals in the dried specimen an inch and three quarters long.

3. Bipinnula mystacina. *Lindl. in Hook. Journ. Bot.* 1. 5.

B. spicâ multiflorâ, sepalis lateralibus apice dilatatis pinnatis: laciniis filiformibus ramosis, labelli dimidio superiore seriatim tuberculato inferiore lamellato.

Chloræa fimbriata. *Pöpp. nov. gen. &c.* 1. *p.* 30. *t.* 51.

Hab. in *Chile*; prope Valparaiso, *Cuming*; in montibus maritimis arenosis inter Colletiarum agmina horridissima, Jul. Aug. Pöppig. (*hab. s. sp.*)

In Pöppig's figure the divisions of the lateral sepals are represented as simple, but I presume this is an error, for his plant agrees in all other respects with mine. According to this botanist the sepals are pale green, the petals yellow, the lip white, with green appendages.

CCXXVII. ASARCA.

Asarca. *Pöppig, n. g. et sp. pl.* 2. 13.——Gavilea. *Id.* 1. 28.

Perianthium explanatum, basi obliquum, petalis patentissimis. Sepala lateralia basi producta sed vix gibbosa, labello supposita, reflexa, apiculata, et sæpiùs callosa. Labellum ungue brevi bicalloso columnæ adnatum, carnosum, trilobùm, lobo medio lateralibus multò angustiore et productiore, venis præsertim disci glandulosis aut lamellatis. Columna erecta, brevis, semiteres, apice incrassato-marginata. Stigma oblongum, prominens. Anthera et pollinia Chlorææ.——Herbæ Chlorææ facie, (Flores albi, aurantii, interdum tricolores, odoratissimi, *Pöppig.*)

When I proposed the genus Asarca, in Brande's Journal, I intended it to contain those Chloræa-like Chilian plants whose sepals are destitute of a thickening at the apex. But an examination of more species, and the evidence afforded by Pöppig's work, has satisfied me that this distinction is not sufficiently constant or important for the purpose to which I applied it. Among the Chloræas I meant to include the *Gavilu* of Feuillée t. 18, with a short column, and spreading flowers, and some congeneric species actually were included. These Pöppig has rightly separated, under the name of Asarca, and he has given figures of several of them. It is to be

regretted that he did not persevere in retaining for them the name Gavilea, as he appears to have in the first instance intended; but although his Asarca and mine are different, and the name does not apply to his genus, yet I am unwilling to increase the confusion of names by making further change, and therefore I adopt this excellent Botanist's nomenclature, and abandon my own. The error of Pöppig seems to have arisen from his having supposed the Serapias Gavilu of Pavon's herbarium, quoted by me as a synonym of Asarca speciosa, to be the same genus as the Gavilu of Feuillée.

a. *Labellum omninò nudum.*

1. ASARCA bidentata. *Pöppig, l. c. t.* 121.

A. labello subsessili rhombeo obovato nudo coriaceo medio utrinque unidentato posticè integerrimo anticè obtuso ac denticulato, sepalis lateralibus obtusis, petalis nudis, spicâ paucflorâ.

Hab. in *Chile australis* graminosis alpinis, ad Antuco, Floret Januario; Pöppig.

Flowers 3-coloured, almost scentless, whitish green, with the lateral sepals deep green at the points, lip saffron coloured, according to Pöppig.

b. *Labellum medio cristatum.*

2. ASARCA glandulifera. *Pöppig, l. c. t.* 120. B.

A. labello unguiculato cordato acuminato convexo utrinque bicristato: disco appendicibus clavatis creberrimis barbato, sepalis lateralibus ovatis apice obtusis concavis, petalis obovatis venis tuberculatis, floribus dissitis.

Chloræa Volucris. *Lindl. in Hook. Journ. Bot.* 1. 3.

Hab. in *Chile*; prope Valparaiso, *Cuming*, in graminosis alpinis ad Antuco, Decemb. Pöppig. (*hab. s. sp.*)

I have no doubt, notwithstanding the absence of all mention of the glandular petals by Mr. Pöppig, that this plant is the same as his *A. glandulifera.* He describes the flowers to be very sweet scented, and whitish green; but the lip is yellow, with deep green glands.

3. ASARCA acutiflora. *Pöppig. l. c. t.* 120. A.

A. labelli lobis lateralibus subquadratis nudis terminali lineari integerrimo verrucoso lamellato, perianthii foliolis lanceolatis angustis acuminatis, spicâ thyrsoideâ."

Hab. in *Chile australis* sylvis subalpinis graminosis Pico de Pilque, in Andibus Antucensium, Floret Decembre; Pöppig.

Flowers sulphur coloured. Lateral sepals prolonged into a taper deep green point. Glands of the lip cylindrical, much thickened at the points, deep green; according to *Pöppig.*

4. ASARCA odoratissima. *Pöppig, l. c. t.* 118.

A. "labelli posticè transversim ovalis disco glanduloso cristato: lobis subæqualibus lateralibus rotundatis nudis terminali ovato repando obtusato."

Hab. in *Chile australis* graminosis alpinis, Andes de Antuco, Floret Decembre; *Pöppig.*

Scape from 3 to 5 feet high, with dark chesnut coloured or brown skin.

Spike many flowered, from 9 inches to a foot long. Flowers closely packed, orange coloured, with greenish white reticulated bracts, very sweet scented, with the odour of violets, which may be perceived at the distance of 40 paces, according to Pöppig.

5. Asarca sinuata.

A. labelli trilobi pubescentis venis inferioribus lamellatis; lobis lateralibus rotundatis intermedio elongato lineari calloso-sinuato, sepalis lateralibus acuminatis apice incrassatis, bracteis acuminatissimis.

α. labello magis pubescente: lamellis disci interruptis.

Chloræa longibracteata. *Lindl. in Brande's Journ. March,* 1827. *Bentham in Botanist. t.* 94.

β. labello fere glabro: lamellis disci continuis tenuioribus, floribus verosimiliter minoribus.

Hab. in *Chile; α* juxta Concepcion, Oct. *Macrae; β* Valparaiso. (*hab. s. sp.*)

It is not improbable that *β* is a distinct species, but I have only seen an imperfect specimen. The original species has flowers with the petals and upper sepal white, the lateral sepals tipped with green, the labellum yellow with a green edge and spots.

6. Asarca leucantha. *Pöppig, l. c.* 2. 13. *t.* 119.

A. labelli posticè transversim ovalis disco setoso-cristato: lobis inæqualibus lateralibus subrotundis nudis, terminali lineari serrato revoluto supra verrucoso.

Epipactis flore albo, vulgò Gavilu. *Feuillée t.* 18.

Hab. in *Chile borealis* locis sylvestribus convallis los Chorillos (80-200 ped. elev.) Augusto florens. Lecta quoque in sylvis graminosis Andium Antucensium (4000 ped. elev.) mense Novembre, Pöppig.

Scape about 2 feet high. Flowers sweet-scented, variegated with white green and yellow, with very acute yellowish green bracts. Appendages of the lip deep green; according to Pöppig.

The whole habit of this plant is like the last, of which I should have been inclined to consider it a variety if the labellum, very carefully described by Pöppig, were not so entirely different.

c. *Labellum medio nudum, v. obsoletè lamellatum, pone marginem papillosum.*

7. Asarca maculosa. *Pöppig, l. c. t.* 121. *fig. A. a—d.*

A. labelli unguiculati obsoletè trilobi lobis lateralibus rotundatis intra marginem suum lamellatis et tuberculatis intermedio incrassato rotundato integerrimo nudo, sepalis lateralibus obtusissimis, petalorum venis et margine tuberculatis.

Chloræa galeata. *Lindl. in Brande's Journal, March,* 1827.

Hab. in *Chile borealis* graminosis ad Concon. Floret Augusto, Pöppig; ad Cumbre, Andium claustrum, Novemb. *Macrae.* (*hab. s. sp.*)

Stem a foot and half to two feet high. Flowers variegated with white and green, petals yellow with black tubercles. Lip white, deep green at the point.

8. Asarca alaris.

A. labelli subsessilis cucullati trilobi denticulati lobis lateralibus rotun-

datis obsoletè tuberculatis intermedio creberrimè verrucoso, sepalo dorsali reflexo acuminato lateralibus linearibus patulis obtusissimis apice incrassatis atratisque, petalis rhombeis acutis maculatis.

Chloræa alaris. *Lindl. in Brande's Journal, March,* 1827.

Hab. in *Chile,* prope Concepcion, Oct. *Macrae,* Valparaiso, *Cuming.* (*hab. s. sp.*)

This may possibly be the same as the next species, and I should have inclined so to consider it if the flowers had at all deserved the name of *small,* which they do not. It is also to be observed that Pöppig describes the back sepal of his *A. parviflora* as being fornicate, and the sepals as being half united to the back of the column, none of which characters are to be found in this species.

9. Asarca parviflora. *Pöppig, l. c. t.* 121. *B.*

A. labelli unguiculati rhombeo-ovalis subtrilobi lobis lateralibus rotundatis intra marginem papillosis intermedio elongato lineari emarginato "lamelloso," sepalo dorsali fornicato lateralibus angustioribus linearibus obtusis apice incrassatis et nigris, petalis cum columnâ semiconnatis viridi-punctatis.

Hab. in *Chile australis* campis lapidosis vulgatissima, Floret Decembre, Pöppig.

Flowers about 20, of three colours; sepals green; lip yellow, at the point black, like the lateral sepals; according to Pöppig.

CCXXVIII. CLEISTES.

Cleistes. *Rich. Annot. p.* 9.

Perianthium connivens, subæquale. Sepala libera, inter se æqualia. Petala latiora, magis membranacea, libera. Labellum oblongum, membranaceum, liberum, circa columnam convolutum, integrum aut trilobum, basi concavum bicallosum, cum columnâ articulatum, in medio lamellatum. Columna libera, elongata, clavata, semiteres, clinandrio dentato. Anthera pedicellata, inflexa, bilocularis, loculis discretis.——Herbæ Guayanenses, terrestres, radice tuberosâ, Uvulariæ vultu. Folia numerosa, basi cucullata, caulem simplicem a basi vestientia. Flores axillares, nutantes, foliis breviores.

Of the originâl species of this genus I know nothing more than is to be found in Aublet. It does not however appear to differ from those I have examined, in anything more than its labellum being short and three lobed, to the latter of which characters there is an approach in *C. parviflora.* It is probable that Guayana contains other species, of which I have some indications, but not sufficient for publication.

§ 1. *Labello trilobo.*

1. Cleistes lutea.

C. labelli trilobi abbreviati lobis lateralibus rotundatis intermedio crispo emarginato.

Limodorum grandiflorum. *Aubl. guian.* 2. 818. *t.* 321.
Cymbidium grandiflorum. *Willd. Sp. Pl.* 4. 110.

Hab. in *Guayanâ* in pratis Courou, sex mill. a maris littore; Aublet. Corolla lutea amplissima. Labellum brevissimum.

§ 2. *Labello convoluto indiviso.* Bachia *Schomburgk.*

2. Cleistes rosea.

C. labello convoluto acuminato integerrimo sepalorum longitudine lamellis laceris per medium.

Hab. in *Guayana, Schomburgk.* (*hab. s. sp. comm. indefessus inventor.*)

A beautiful plant with flowers of a lively rose colour and 2½ inches long. Mr. Schomburgk gives me the following note upon this plant made during his stay in Guayana.

"I found this pretty species at the Savannahs adjacent to the lake Capooey, Arabisee Coast of Essequibo, where it appeared to be in great abundance. It is from 3 to 5 feet high, its leaves lanceolate, acute, amplexicaul, marginate, smooth, entire; the scape terete and smooth; leaves and scape glaucous; the flowers in the bosom of the leaf. There is a gland where the flowerstalk is connected with the scape. The sepals are recurved, greenish outside, lake coloured inside, the floral envelopes a lilac approaching pink; at the base of the crested lip there are two ovate glands of a whitish colour; it is likewise remarkable for a hairy canal with which the column appears to be connected; The column is white and appears almost succulent. The tuber is oblong and as far as I have observed uni-gemmiparous.

3. Cleistes parviflora.

C. labello convoluto oblongo obtuso apice obsoletè trilobo subcrispo sepalorum longitudine, lamellâ per medium unicâ fissâ carnosâ apicem versus denticulatâ.

Hab. in *Guayanâ, Schomburgk.* (*hab. s. sp.*)

Sesquipedalis. Folia cuivis cauli 4, oblongo-lanceolata, basi cucullata, internodiis pauld longiora; floralia immutata. Flores nutantes, verosimiliter sanguinei, pedicello suo subæquales; alabastri unciam tantum longi.

CCXXIX. CODONORCHIS.

Perianthium campanulatum, sepalis petalisque æqualibus liberis. Labellum unguiculatum, ovatum, medio seriatìm glandulosum. Columna elongata, alata, stigmate longitudinali lineari. Anthera apiculata, membranaceo-marginata. Pollinia bina, compressa, farinosa.——Herbæ terrestres, antarcticæ, tuberculis sphæricis cauliculum descendentem terminantibus. Caulis uniflorus basi vaginâ membranaceâ cinctus. Folia membranacea, verticillata. Scapus nudus. Flos sessilis, bracteâ cucullatâ suffultus.

1. Codonorchis Pöppigii.

C. foliis 3-4 oblongis brevissimè petiolatis, labelli laminâ rhombeo-ovatâ acuminatâ per axin glandulis clavatis cristatâ.

Pogonia tetraphylla. *Pöppig and Endl. n. gen.* 2. 16. *t.* 122.

Hab. in *Chile australis* sylvis alpinis umbrosis montis Pico de Pilque, in Andibus Antucensium, flor. Jan. Poeppig.

Flos viridi-purpureus.

2. Codonorchis Lessonii.

C. foliis 2-4 ovatis acutis, labelli laminâ ovato-subrotundâ acuminatâ obtusiusculâ: glandulis basi aggregatis elongatis superiùs abbreviatis versus apicem papillæformibus.

Calopogon Lessonii. *Ad. Brongn. in It. Duperrey p.* 188. *t.* 37. *f.* 1.

β. foliis obovatis obtusis minus membranaceis, floribus majoribus.

Hab. in insulâ *Staten, Webster*; in *Chile* prope Valdiviam ad "los Canellos" locis umbrosis, Bridges 767; β. ad Caput Horn, *Eyletts.* (*hab. s. sp.*; β. *v. s. sp. in Hb. Hooker.*)

The var. α. differs from β. in its thinner and more acute leaves, and much smaller flowers; the latter may be a distinct species.

CCXXX. HAPLOSTELLIS.

Aplostellis. *Thouars orch. afr. t.* 24.———Haplostellis. *Endl. gen. no.* 1603.

Perianthium patens, æquale, liberum, labelli longitudine. Labellum integrum, cucullatum, erecto-patulum, (nudum?). Columna aptera, labello brevior.———Herba mascarensis, tuberosa, aphylla, humilis, uniflora, vix nota; an Pogoniæ species?

1. Haplostellis truncata.

H. labello indiviso convoluto apice dentato truncato.

Arethusa simplex. *Thouars orch. afr. t.* 24.

Hab. in *Mauritio,* florens Octobri, Thouars.

CCXXXI. CEPHALANTHERA.

Cephalanthera. *L. C. Richard orch. annot. p.* 29. *Nees jun. gen. pl. ic.* *Endlicher, gen. pl. no.* 1608.

Flores sessiles, foliis bracteati. Perianthium petaloideum connivens. Sepala semipatentia. Petala conformia, galeata. Labellum liberum, columnam amplexans; hypochilio saccato concavo cum epichilio nudo apice recurvo articulato. Columna teres, elongata. Anthera terminalis, semiquadrilocularis, substipitata. Stigma transversum, prominens. Pollinia duo, linearia, pulverea.———Herbæ terrestres, radicibus fibrosis, foliis plicatis basi cucullatis.

1. Cephalanthera pallens. *Richard. l. c. p.* 21. *Nees ab Esenb. gen. german. c. ic.* *Koch. fl. germ.* 694.

C. bracteis foliaceis ovario glabro longioribus, epichilio cordato-ovato latiore quam longo obtuso venâ mediâ cristatâ, ovario glabro.

Serapias Lonchophyllum. *Linn. Suppl.* 405.
Serapias grandiflora. *Linn. syst. veg.* 679.
Serapias lancifolia. *Roth. tent.* 2. 2 409.
Serapias longifolia. *Huds. fl. angl.* 393.

Epipactis pallens. *Willd. sp. pl.* 4. 85. *Hook fl. Lond. n. s. t.* 76.
Epipactis pallida. *Swartz. act. Holm.* 1800. *p.* 232.
Epipactis grandiflora. *Smith. Eng. Bot. t.* 271.
Epipactis ochroleuca. *Baumgart. in Rchb. fl. excurs.* 1. 140. *suppl.*
Epipactis caule paucifloro, lineis obtusi labelli lævibus. *Hall. helv. n.* 1298. *t.* 41.

Hab. in *Europæ* nemoribus montosis inter frutices; in *Iberiâ, Steven,* (*hab. s. sp.*)

2. Cephalanthera acuminata. *Lindl. in Wall. cat. no.* 7405.

C. bracteis setaceis acuminatis superioribus ovario brevioribus, epichilio cordato-ovato obtuso sub apice barbato lineis baseos quinque elevatis, ovario glabro.

Hab. in *Napalia, Wallich, Royle.* (*hab. s. sp.*)

A very distinct species, with a habit intermediate between *C. pallens* and *ensifolia.*

3. Cephalanthera ensifolia. *Richard l. c. Koch. l. c.*

C. bracteis minimis squamæformibus, epichilio obtusissimo latiore quam longo venâ mediâ lamellatâ, ovario glabro.

Epipactis ensifolia. *Swartz. act. holm.* 1800. *p.* 232. *Hook. fl. Lond. n. s. t.* 77.
Serapias ensifolia. *Smith Eng. Bot. t.* 494.
Serapias xiphophyllum. *Linn. suppl.* 404. *Flora Danica* 506.
Serapias nivea. *Desf. fl. atl.* 2. *p.* 321.

Hab. in *Europæ* nemoribus montosis; in regno neapolitano *Tineo*; nec non in *Algeria,* Desfontaines. (*hab. s. sp.*)

4. Cephalanthera rubra. *Richard l. c. Koch. l. c.*

C. bracteis linearibus acutissimis foliaceis, epichilio ovato acuminato lineis elevatis undulatis cristato, ovario rachique tomentosis.

Epipactis rubra. *Swartz. act. holm.* 1800. *p.* 232.
Serapias rubea. *Linn. syst. veg.* 679. *fl. dan. t.* 345. *Engl. Bot. t.* 437.
Epipactis purpurea. *Crantz. st. austr.* 457.
Serapias elegans. *Chesnel.*

Hab. in *Europæ* nemoribus; (*hab. s. sp.*)

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an hujus generis?

5. Epipactis erecta. *Swartz. act. holm.* 1800. p. 232.

Serapias erecta. *Thunb. fl. jap.* 27. *ic. jap. t.* 4.

Hab. in *Japonia,* Thunberg.

Folia ovata amplexicaulia. Caulis spithamæus. Flores spicati, erecti, albi, minuti. Japonicè Kutzinawa Itsig. *Thunb.*

6. Serapias longifolia, (bulbis fibrosis foliis ensiformibus sessilibus, floribus pendulis, Japonicè Skio Ran, Sju Ran.) *Thunberg fl. jap.* 28.

Hab. in *Japonia,* Thunberg.

7. Epipactis falcata. *Swartz. l. c.*

Serapias falcata. *Thunb. jap.* 28. *ic. jap. t.* 5.

Hab. in *Japonia,* in monte Fakoma, florens Aprili, Thunberg.

Caulis spithamæus. Folia ensiformia, convoluta, glabra, falcata. Flores spicati, erecti; Japonicè Kin Ran. Thunb.

CCXXXII. POGONIA.

Pogonia. *Juss. gen.* 65. *R. Brown in hort. Kew.* 5. 203.——Triphora. *Nutt. gen. II.* 192. ——Odonectis *Rafinesque in N. York-med. repos. Journ. Bot.* 1. 221.——Isotria, *Id. in Journ. Phys.* 89. 261.——Nervilia. *Gaudich. ad Freycin.* 421. *t.* 35.

Perianthium irregulare, subringens, patulum, sepalis petalisque liberis, nunc similibus nunc difformibus. Labellum liberum, ecallosum, cum columnâ elongatâ parallelum, petaloideum, trilobum, disco lamellato cristato aut villoso. Columna elongata, clavata, marginata aut semiteres, apice subauriculata. Anthera stipitata, bilocularis. Pollinia 2, sulcata. ————Herbæ terrestres, habitu variæ, tuberculis sphæricis cauliculum descendentem terminantibus. Folia in Nerviliis hysteranthia plicata.

§ 1. Eupogonia; *caule florido foliato, sepalis petalisque subconformibus.*

1. Pogonia ophioglossoides. *Nutt. gen.* 2. 192. *Bot. Reg. t.* 148. *Hook. exot. fl.* 70. *Elliott. Carolina,* 2. 496.

P. folio solitario ovali-lanceolato, bracteâ foliaceâ, sepalis petalisque coloratis obtusis subæqualibus, labello oblongo obtuso serrato basi angustato apice integro: axeos glandulis inferioribus minoribus pubescentibus superioribus elongatis glabris cristatis.

Arethusa ophioglossoides. *Linn. sp. pl.* 1346. *Pursh, fl. am. sept.* 2. 591. *Lam. illustr. t.* 729. *f.* 2.

Hab. in *America septentrionali,* in turfosis sphagnetisque, a Canada ad Carolinam, Pursh. &c. (*hab. s. sp.*)

The flowers are usually bright pink, but according to Pursh they are sometimes white. According to Elliott the leaves vary from narrow-lanceolate and very acute to oval-lanceolate scarcely acute, with the stem shorter and flowers larger.

2. Pogonia pendula. *Lindl. in Bot. Reg. t.* 908.

P. foliis ovatis squamæformibus amplexicaulibus, floribus axillaribus nutantibus, pedunculo foliis multò breviore, sepalis patulis petalisque erectis linearibus obtusis conformibus, labello apice trilobo medio granuloso: lobis lateralibus rotundatis intermedio oblongo crispo brevioribus, ovario obsoletè hexaptero.

Arethusa parviflora. *Mich. am. bor.* 2. 160.
Arethusa trianthophoros. *Swartz, act. holm.* 1800. *p.* 230.
Arethusa pendula. *Willd. sp. pl.* 4. 82.
Triphora pendula. *Nuttall. gen. am.* 2. 193. *Elliott, Carol.* 2. 498.
Helleborine mariana, &c. *Pluk. mant.* 100. *t.* 348. *f.* 6.

Hab. in *America septentrionali;* in sylvis umbrosis ad fagorum radices, a Novo Eboraco ad Kentucky, Pursh; Canada, Douglas; in Carolinæ agro humido fertili, Elliott, (*hab. s. sp.*)

Flowers small, white, tinged with pink.

3. Pogonia gentianoides.

P. caule multifloro subcorymboso, foliis squamæformibus cucullatis apice rotundatis, pedunculis bracteis acuminatis trinervibus multò longioribus, petalis sepalis brevioribus, labelli apice trilobi laciniâ mediâ subrotundâ plicatâ lateralibus minoribus ovatis integris lineis tribus elevatis exasperatis per axin productis.

Arethusa gentianoides. *Swartz. fl. ind. occ.* 3. 1436.
Limodorum ? gentianoides. *Id. Prodr.* 119.
Triphora gentianoides. *Nutt. gen. amer.* 2. 193.

Hab. in *Jamaicæ australis* frutetis umbrosis, prope Morant Bay, Swartz.

Caulis 4-10-pollicaris, 6-12-florus. Pedunculi 1-3 pollices longi, filiformes, rubri. Flores subclausi, pallidi, parvi, fusco-purpurei, glaucescentes, subringentes. Capsula tricarinata; ex Swartzio.

§ 2. Odonectis; *caule florido foliato, sepalis quam petala multò longioribus et angustioribus.*

4. Pogonia verticillata. *Nutt. gen.* 2. 192. *Elliott, Carolina,* 2. 497.

P. foliis verticillatis oblongis acutis, sepalis linearibus erectis petalis oblongis acutis duplò longioribus, labello angustè oblongo apice trilobo per axin lamellato: lobis lateralibus acutis intermedio multò majore rotundato deflexo.

Arethusa verticillata. *Willd. sp. pl.* 4. 81.
Odonectis verticillata. *Rafinesque in Journ. Bot.* 1. 221.
Arethusa medeoloides. *Pursh. fl. am. sept.* 2. 591.
Helleborines affinis, &c. *Pluk. mant.* 101. *t.* 348. *f.* 1.

Hab. in *Americæ septentrionalis* provinciis temperatioribus; Pennsylvania, Muhlenberg; New Jersey, *Torrey*; Carolina et Georgia in quercetis, Elliott. (*hab. s. sp. comm. cel. Torrey.*)

5. Pogonia divaricata. *R. Brown, in Hort. Kew.* 5. 203. *Elliott, Carolina* 2. 496.

P. folio solitario lanceolato, bracteâ foliaceâ, sepalis lineari lanceolatis patentissimis discoloribus petalis oblongo-lanceolatis coloratis conniventibus longioribus, labello bilamellato oblongo lanceolato cucullato trilobo: lobis lateralibus rotundatis intermedio elongato acuminato serrulato medio cristâ lacerâ aucto.

Arethusa divaricata. *Linn. sp. pl.* 1346. *Lam. illustr. t.* 729. *f.* 3.

Hab. in *Americæ septentrionalis* provinciis temperatis; in palustribus maritimis a Virginia ad Floridam, Pursh; in udis circa puteos in pinetis Carolinæ, Elliott. (*hab. s. sp. comm. cel. Torrey.*)

§ 3. Nervilia; *foliis solitariis plicatis hysteranthiis, sepalis petalisque subæqualibus, capsulis hexapteris.*

6. Pogonia Juliana. *Wall. Cat. no.* 7399.

P. folio cordato septemnervi, scapo unifloro, labelli lobis lateralibus nanis rotundatis intermedio subrhomboideo integerrimo acuto basi piloso.

Epipactis Juliana. *Roxb. fl. ind.* 3. 453.

Hab. in *Bengalia*, in solo tenaci inter gramina locis umbrosis, flor. Junio, Roxb. (*v. ic. pict.*)

The whole plant is about 4 or 5 inches high, and stained with purple. The sepals and petals are linear-lanceolate and purplish green; the lip is much broader, white or very pale pink, mottled with bright red.

7. Pogonia carinata.

P. folio cordato 7-nervi, scapo multifloro, labelli rhomboidei subtrilobi venosi intus lanati lobo intermedio crenato.

Epipactis carinata. *Roxb. fl. ind.* 3. 454.

Hab. in *Bengalia*; inter gramina Aprili florens tempestate aridâ et fervidâ, Roxburgh.

Flowers large, drooping; the sepals and petals unilateral, linear-lanceolate, spreading, pale green; the lip with purple veins and spots upon a pale greenish yellow ground. Bracts ensiform, as long as the peduncle and ovary taken together. *Roxburgh.*

8. Pogonia plicata.

P. folio subrotundo-cordato plicato piloso discolori multinervi, scapo 2-3-floro, labello convoluto bilobo.

Epipactis plicata. *Roxb. fl. ind.* 3. 454.

Hab. in *Bengalia*; prope Calcuttam sub Bambusarum umbrâ opacâ, Maio Junio florens, Roxburgh.

Leaves ferruginous on the surface, greener underneath, on both sides clothed with short distinct white bristles. Scape generally bearing on its apex 2 large flowers, embraced by 2 or 3 sheathing scales. Flowers yellowish green with a rose coloured lip. Sepals and petals equal, lanceolate, "three suberect and two below. Lip subcylindric, the margins towards the base, where broadest, being incurved into a tube which connects the column of fructification; lamina 2-lobed."

Such is an abstract of Roxburgh's account, who adds that the plant is propagated by suckers *from the apex of the petiole, just below the leaf,* and under the surface of the soil.

9. Pogonia flabelliformis. *Lindl. in Wall. Cat. no.* 7400.

P. folio cordato-subrotundo repando membranaceo glabro multinervi, scapo multifloro racemoso, floribus demùm pendulis, labelli trilobi lobis lateralibus nanis intermedio oblongo obtuso undulato-crispo piloso.

Nervilia Aragoana. *Gaudich. in it. Freyc. t.* 35. *p.* 422.

Hab. in *Napalia,* Wallich, ad Sukanagar, Junio, *Hamilton*; necnon in *insulis Mariannis,* Guam, ad terram, vernac. Maissa houlou, Gaudichaud. (*hab. s. sp.*)

Flowers numerous, pendulous, about ¾ inch long, apparently white, at first erect, afterwards pendulous. Sepals and petals linear-lanceolate, nearly equal, longer than the labellum.

10. Pogonia? ovata.

P. "fibrosa, caulibus simplicibus articulatis foliatis erectis bracteisque pubescentibus, foliis ovato-oblongis acutis membranaceis, floribus coëtaneis."

Nervilia? ovata. *Gaudich. l. c.*

In *insulis Mariannis,* Rota, in rupibus, Gaudichaud.

An Apaturiæ species?

CCXXXIII. LEPTOCERAS.

Leptoceras, Caladeniæ §. *R. Rrown Prodr.* 325. *Lindl. in Bot. Reg. Append. no.* 244.

Perianthium bilabiatum, glandulosum. Sepala membranacea, supremum fornicatum, lateralia minora aut æqualia deflexa. Petala duplo longiora

erecta, clavata, apice incrassata et glandulosa. Labellum liberum, cum columnâ articulatum, nunc glandulis seriatis cristatum, nunc nudum. Columna membranaceo-alata. Anthera et Pollinia Caladeniæ.——— Herbæ terrestres, australasicæ, parcè pilosæ v. glaberrimæ, radicibus fibrosis tuberculiferis. Folia radicalia solitaria v. gemina, basi vaginata. Scapus medio vaginâ solitariâ instructus, 1-pluriflorus. Flores aliquando fragrantissimi.

1. Leptoceras Menziesii.

L. folio ovali-lanceolato, caule stricto 1-2-floro pilosiusculo, labello glabro oblongo apice angustato obtuso glandulis capitatis biseriatis.

Caladenia Menziesii. *R. Brown. l. c.*

Hab. in *Novæ Hollandiæ* orâ meridionali, R. Brown; *Tasmannia* in locis diversis præsertim humidis per Novembrem florens, *Gunn* 348. 753. (*hab. s. sp.*)

Flowers have a delightful fragrance, somewhat resembling that of the Hyacinth, according to Mr. Gunn.

2. Leptoceras macrophylla.

L. " folio elongato-lanceolato, labelli glandulis quadriseriatis." *R. Brown, l. c. sub Caladenia macrophylla.*

Hab. in *N. Hollandiæ* orâ meridionali, Menzies.

3. Leptoceras sulphurea.

L. " folio lanceolato plano 5-nervio (s. obsoletè 3-nervio) subtùs glauco, glandulis disci labelli congestis basi biseriatis." *Cunningham, in Field's N. S. Wales, p.* 361. *sub Caladenia sulphurea.*

Hab. in *N. Hollandia,* Cunningham.

" L. Menziesii affinis."

4. Leptoceras oblonga. *Lindl. l. c. no.* 244.

L. folio oblongo obtuso, racemo elongato internodiis floribus longipedunculatis longioribus, labelli oblongi apice angustati crispi glandulis 2-seriatis teretibus: infimis fasciculatis.

Hab. in *Nova Hollandia,* ad Swan River, *Mangles.* (*hab. s. sp.*)

This has the habit of *Leptoceras Menziesii* but is a much larger plant, and the glands of its lip are quite different.

5. Leptoceras fimbriata. *Lindl. l. c. no.* 245.

L. glaberrima, folio minimo cucullato acuminato, caule stricto tenui 1-3-floro, floribus approximatis, labello pubescente cuneato eglanduloso apice dentibus glandulosis fimbriato.

Hab. cum præcedente, *Drummond.* (*hab. s. sp.*)

This and the following are slender rigid erect smooth plants, with coriaceous leaves.

6. Leptoceras pectinata. *Lindl. l. c. no.* 246.

L. glaberrima, folio ovato acuminato, caule stricto 2-floro, flore inferiore internodio breviore, labello pubescente cuneato eglanduloso apice dentibus glandulosis medio excepto pectinatim marginato.

Hab. cum præcedente, *Drummond.* (*hab. s. sp.*)

CCXXXIV. CALADENIA.

Caladenia. *Br. Prodr.* 1. 323. *Endlich. genera, no.* 1593.

Perianthium bilabiatum, glandulosum. Sepala apice simplicia aut elongata carnosa; supremum erectum, lateralia labello supposita, nunc cum petalis labium inferius constituentia. Petala apice simplicia. Labellum unguiculatum, cucullatum, trilobum aut indivisum, disco glandulis seriatis cristatum. Columna membranaceo-dilatata. Anthera sæpius mucronata. Pollinia 4, semibiloba.———Herbæ terrestres, australasicæ, glandulis pilisque vestitæ, bulbosæ. Folia radicalia, solitaria, angusta, basi vaginâ inclusa. Scapus medio vaginâ solitariâ instructus, uniflorus, nunc apice bi-trifurcus. Flores inodori, colore varii.

§ 1. Eucaladenia. (*Lindl. in Bot. Reg. append. no.* 230.) Sepala et petala subæqualia, ringentia, haud acuminata. Labellum seriatim glandulosum, sæpissimè trilobum.

1. Caladenia alba. *R. Brown, l. c.*

C. " perianthii foliolis acutiusculis, columnâ labelloque evittatis, glandulis biseriatis: superioribus arcuatis capitulo concolori, lobo intermedio longitudinaliter fimbriato: disco eglanduloso."

Hab. *in N. Hollandia* ad Portum Jackson, *R. Brown.* (*hab. s. sp.*)

2. Caladenia carnea. *R. Brown, l. c. Endl. ic. gen.* 1594.

C. perianthii foliolis acutis, columnâ labelloque sæpiùs vittatis, glandulis sub biseriatis; inferioribus strictis capitulo luteo, lobo intermedio inciso vel serrato; disco nudo.

Hab. in *N. Hollandia,* ad Portum Jackson, *R. Brown*; in ora meridionali; nec non in Tasmannia, in locis humidis solo sabuloso Nov. *Gunn* **912,** et ad arborum radices Oct. Nov. *Gunn.* 606. (*hab. s. sp.*)

This little plant varies much in size and in the form &c. of the lip; some of my specimens from Tasmannia are scarcely 2½ inches high, others from the south coast of N. Holland are nearly a foot high, with the flowers large in proportion, and the bands of the lip and column nearly obsolete. In this latter too I find a second line of glands imperfectly formed upon the lip. The form of the lip is also far from constant. In Mr. Gunn's no. 606. the middle lobe is only serrated and much longer than the lateral ones; in his no. 912 the same part is deeply cut at the edge, and so little longer than the side ones as to give the lip almost a cuneate figure.

3. Caladenia cærulea. *R. Brown. l. c.*

C. perianthii foliolis acutis, labello vittato; glandulis biseriatis, lobi intermedii marginibus integerrimis: disco glanduloso, bracteâ scapi adpressâ, folio brevi patulo piloso.

Hab. in *N. Hollandia,* prope Portum Jackson, et in Tasmanniâ, R. Brown, (*v. ic. Baueri, comm. cel. Endlicher.*)

A very small plant readily known from the two preceeding by its short spreading hairy leaves, and the entire middle lobe of the labellum. Otherwise it is much like them. I have seen no certain specimen, except that distributed among Sieber's plants no. 163.

4. Caladenia sericea. *Lindl. in Bot. Reg. Append. no.* 236.

C. folio oblongo-ovato molliter sericeo caule 1-2-floro pluriès breviore, sepalis petalisque obtusiusculis, labelli cuneati glandulis minutis 4-seriatis basi maximis carnosis: lobis æqualibus integerrimis intermedio disco glanduloso.

Hab. in *N. Hollandia,* ad Swan River, *Drummond,* (*hab. s. sp.*)

Stem a foot and half high. Flowers large, blue or purple. Labellum glandular on the outside.

5. Caladenia barbata.

C. perianthii foliolis obtusiusculis subæqualibus, labelli subcuneati pubescentis lobis lateralibus anticè pectinatis intermedio inciso-serrato, glandulis densè 4-seriatis ad medium lobi medii currentibus inferioribus truncatis, vaginâ scapi patente foliaceâ, folio glabro nunc cauli æquali.

? C. deformis. *R. Brown, l. c.*

Hab. in *N. Hollandia* ; Tasmanniâ, *Gunn,* 347. (*hab. s. sp.*)

The plant now described has flowers almost as regular as those of the § Pentisea. My specimens are from 3 to 4 inches high, and the leaf is in all of them unusually long for this genus. I am not certain whether this is Brown's *C. deformis* ; but from some parts of the character assigned to that plant I think it probably is so.

6. Caladenia unguiculata. *Lindl. in Bot. Reg. Append. no.* 232.

C. folio lineari caule unifloro breviore, sepalis petalisque obtusiusculis, labelli cuneati longè unguiculati glandulis 4-seriatis ramentaceis infimis majoribus: lobis dentatis lateralibus truncatis intermedio oblongo, disco glanduloso.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

Flowers blue. A slender, nearly smooth plant, from 5 to 6 inches high. Both the labellum and its ramentaceous glands are downy.

7. Caladenia alata. *R. Brown, l. c.*

C. "perianthii foliolis acutissimis; interiorum lateralibus divaricatis, columnâ labelloque vittatis glandulis biseriatis, lobo intermedio basi utrinque unidentato, disco eglanduloso, folio lineari."

Arethusa catenata. *Smith exot. bot. t.* 104. *sec. autoris ipsi sententiam in Rees Cycl. Suppl. sub Caladenia.*

Hab. in *N. Hollandia,* ad Portum Jackson, R. Brown.

8. Caladenia flava. *R. Br. l. c.*

C. "perianthii foliolis acutis, labelli laminâ basi cordatâ, glandulis biseriatis; infimis longioribus: supremis fasciculatis, lobo intermedio basi utrinque bidentato dentibus lobum subæquantibus disco eglanduloso; lateralibus acutis mucrone antheram æquante, folio lanceolato scapoque hirsuto 2-3-floro."

Hab. in *N. Hollandia* meridionali, Menzies ; ad sinum Regis Georgii, *Collie,* Swan River, *Drummond.* (*hab. s. sp.*)

Flowers large, yellow, with the two lateral sepals unguiculate and larger than the upper sepal and petals. The leaves are broad and often as long as the scape, which is from 3 to 9 inches high.

9. Caladenia latifolia. *R. Brown, l. c.*

C. perianthii foliolis obtusiusculis, labelli cordati glandulis biseriatis approximatis, lobo intermedio basi utrinque 2-3-dentato dentibus lobo ter brevioribus; disco eglanduloso, folio lanceolato-oblongo pubescente, scapo hirsuto 2-3-floro.

Hab. in *Tasmanniâ,* R. Brown; in collibus sabulosis circa Circular Head et Woolworth Sept. Oct. *Gunn,* 750. *(hab. s. sp.)*

Flowers usually purple or bright rose colour, occasionally white, according to Mr. Gunn.

10. Caladenia reptans. *Lindl. in Bot. Reg. Append. no.* 235.

C. folio oblongo caule unifloro duplò breviore, sepalis petalisque obtusiusculis, labelli glandulis biseriatis approximatis: lobis lateralibus ovatis obtusis intermedio ovato subdentato omninò eglanduloso.

Hab. in *N. Hollandia,* ad Swan River, *Drummond. (hab. s. sp.)*

Stem from 5 to 6 inches high. Flowers purple.

11. Caladenia elongata. *Lindl. l. c.* 234.

C. folio lineari-oblongo caule elongato 4-plò breviore, sepalis petalisque acutiusculis, labelli glandulis biseriatis approximatis: lobis lateralibus oblongis infra apicem dente subsolitario instructis intermedio lanceolato, disco nudo utrinque basi pluridentato, antherâ longè mucronatâ.

Hab. in *N. Hollandia,* ad Swan River, *Drummond. (hab. s. sp.)*

Stem a foot and half high.

12. Caladenia mollis. *Lindl. l. c.* 233.

C. folio oblongo caule elongato 4-plò breviore, sepalis petalisque acutiusculis, labelli glandulis biseriatis approximatis: lobis lateralibus rotundatis intermedio lanceolato utrinque basi 3-dentato, disco nudo.

Hab. in *N. Hollandia,* ad Swan River, *Drummond. (hab. s. sp.)*

Stem 1½ foot high. Flowers pink.

13. Caladenia marginata. *Lindl. l. c.* 230.

C. folio radicali oblongo cauli subæquali, sepalis petalisque obtusiusculis, labelli glandulis biseriatis filiformibus conformibus: lobis lateralibus rotundatis intermedio triangulari basi fimbriato apice glandulis marginato, disco nudo.

Hab. in *N. Hollandia,* ad sinum regis Georgii, *Collie. (hab. s. sp.)*

About 4 inches high. Scape 2-3-flowered. Flowers apparently dingy purple.

14. Caladenia ochreata. *Lindl. l. c.* 231.

C. folio oblongo acuto basi ochreâ laxâ truncatâ vaginato caule subramoso breviore, sepalis petalisque obtusiusculis, labelli glandulis biseriatis filiformibus conformibus: lobis lateralibus rotundatis intermedio triangulari acuminato subcrispo margine calloso, disco nudo.

Hab. in *N. Hollandia,* ad Swan River, *Drummond. (hab. s. sp.)*

Stem 3 to 4-flowered, about 6 inches high; perhaps a variety of the last, of which it has the habit.

15. Caladenia testacea. *R. Brown, l. c.*

C. perianthii foliolis acutis, labelli glandulis depressis quadriseriatis: lobis lateralibus apice pectinatis intermedio glanduloso-crenato, glandulis disci paucis congestis.

Hab. in *N. Hollandia,* ad Portum Jackson, *R. Brown,* Paramattæ in sylvestribus sterilibus, Dec. *A. Cunningham;* juxta Sydney, *R. Cunningham.* (*hab. s. sp.*)

A small slender plant, with very narrow leaves. In this respect however it appears to vary, unless different species, which I cannot distinguish with the materials in my possession, are confounded by me under this name. Brown's original specimens, for which I am indebted to that gentleman, are very much smaller than others sent me from Sydney in spirits by Mr. R. Cunningham, and have scarcely any hairs on the leaves. Flowers small, apparently brown.

16. Caladenia congesta. *R. Brown. l. c.*

C. "perianthii foliolis acutis, labelli glandulis subquadriseriatis depressis; quatuor infimis stipitatis dissimilibus, lobis lateralibus longioribus quam latis intermedioque nudo, disco glanduloso."

Hab. in *N. Hollandia;* Tasmanniâ, Paterson; in sylvestribus prope Bathurst, Oct. *A. Cunningham;* Swan River, *Mangles.* (*hab. s. sp.*)

I know this plant only from specimens so named by Mr. Cunningham, with which the Swan River plant also agrees; but there is nothing like it among Mr. Gunn's collections. The stem is slender, and sparingly covered with short transparent glandular hairs. The leaf is filiform. I do not find any material difference between the glands at the base and in the middle of the lip in the flowers I have had an opportunity of dissecting.

17. Caladenia angustata.

C. perianthii laciniis acutis, labelli ovalis undulati sub apice serrulati glandulis erectis 4-seriatis conformibus, disco obsoletè papilloso, folio lineari glabro, scapi pilosiusculi vaginâ appressâ.

Hab. in *Tasmanniâ,* ad arborum radices, Oct. Nov. *Gunn,* 911. (*hab. s. sp.*)

A slender species with the stem and foliage of *C. congesta* and the flowers of *C. Carnea,* so far as size and general appearance are concerned.

§ 2. Pentisea. Sepala et petala subæqualia patula haud producta; labello indiviso undique glanduloso. *Lindl. in app. Bot. Reg. no.* 237.

18. Caladenia gemmata. *Lindl. l. c.*

C. folio ovato undulato coriaceo caule villoso unifloro aphyllo pluriès breviore, labello subrotundo-ovato acuto glandulis depressis undique tecto.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

A plant about 6 inches high; with large erect purple flowers.

19. Caladenia ixioides. *Lindl. l. c. no.* 238.

C. folio ovato obtuso scapo bibracteato unifloro ter breviore, labello oblongo medio constricto apice serrulato glandulis minutis ramentaceo.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

In habit similar to the last, but with large yellow flowers.

§ 3. Calonema. Sepala et petala ringentia longissimè acuminata; labello integro sæpius margine fimbriato. *Lindl. in Bot. Reg. Append. no.* 239.

20. Caladenia filifera. *Lindl. l. c.*

C. folio lineari caule duplò breviore, sepalis petalisque apice filiformibus plumoso-glandulosis, labello ovato-lanceolato obtuso dentato basi integro medio constricto; glandulis biseriatis.

Hab. in *N. Hollandia,* ad Swan River, *Drummond*; etiam in orâ meridionali? (*hab. s. sp.*)

Flowers deep purple. Can this be Brown's C. filamentosa?

21. Caladenia denticulata. *Lindl. l. c. no.* 240.

C. folio lineari caule villoso breviore, sepalis petalisque apice filiformibus plumoso-glandulosis, labello ovato-lanceolato obtuso supra medium denticulato: glandulis biseriatis.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

Flowers like the last, but bright yellow with purple glands.

22. Caladenia hirta. *Lindl. l. c. no.* 241.

C. folio oblongo caule furcato elato multò breviore, sepalis petalisque acuminatis, labello oblongo serrato obtuso: glandulis 4-seriatis infimis capitatis.

Hab. in *N. Hollandia,* ad Swan River, *Drummond;* ad sinum Regis Georgii, *Collie.* (*hab. s. sp.*)

A broad leaved plant with something of the habit of *Leptoceras Menziesii.* Flowers whitish yellow, tinged with purple; the tips and the glands of the lip purple.

23. Caladenia pallida.

C. folio lineari glabro basi piloso ultra vaginam scapi uniflori foliaceam patulam elevato, sepalis acuminatissimis clavatis apice scabriusculis, petalis brevioribus apice setaceis glabris, labelli ovati acuminati basi incisi apice integri glandulis æqualibus filiformibus quadriseriatis.

Hab. in *Tasmanniâ,* ad Circular head, solis diversis sed vix fertilibus, abundè, Oct. et Novemb. initio, *Gunn,* 907. (*hab s. sp.*)

A slender species with flowers entirely colourless or only a little tinged with purple at the tips of the sepals.

24. Caladenia filamentosa. *R. Brown, l. c.*

C. folio lineari pilosiusculo caule 1-2-floro multò breviore, sepalis petalisque filiformi-acuminatis scabris, labelli ovati obtusè acuminati medio serrati apicem versus integri glandulis æqualibus filiformibus quadriseriatis. (biseriatis *R. Br.*)

Hab. in *Tasmanniâ* R. Brown, in solo sterili arenoso, a 10ma Dec. ad Januarii initium, *Gunn,* 910. (*hab. s. sp.*)

I can find no Tasmannian plant of this section with the glands of the lip in two rows; I am therefore uncertain whether or not this is really the species of Brown. It however agrees with his character pretty

well in other respects, and I was assured by the late Mr. Cunningham that this is really the species intended in the Prodromus. I fear it it is hardly distinct from *C. Patersoni.* Sepals and petals yellowish green, with brown purple glands. Lip deep purple above the middle.

25. CALADENIA clavigera. *A. Cunn. MSS.*

C. folio lineari-lanceolato villosissimo caule unifloro multò breviore, vaginâ scapi subfoliaceâ patulâ, sepalis petalisque acuminatissimis glabris apice sæpius clavatis, labelli subrotundo-ovati integri medio subserrati glandulis 4-seriatis infimis subdissimilibus.

Hab. in *N. Hollandia;* convalle Clwyd dictâ, inter montes cæruleos, Oct. *A. Cunningham;* Tasmanniâ *Gunn* 344. (*hab. s. sp.*)

A smaller plant than C. filamentosa. Flowers apparently of the same colour. Can it be a hybrid between C. dilatata and filamentosa?

26. CALADENIA dilatata. *R. Brown, l. c.*

C. folio lineari oblongo villoso caule unifloro multò breviore, vaginâ scapi subfoliaceâ apice setaceâ patulâ, sepalis petalisque acuminatissimis clavatis glabriusculis, labello trilobo: lobis lateralibus falcatis margine anteriore fimbriatis posteriore integerrimis intermedio ovato basi inciso apice integro, glandulis disci quadriseriatis inferioribus longioribus confertis.

Hab. in *Tasmanniâ* R Brown; in campis virentibus Australiæ felicis *præf. Mitchell,* in terrâ graniticâ sylvarum apertarum prope Bathurst, Oct. *A. Cunningham.* (*hab. s. sp.*)

Flowers pale green with a purple rib along the sepals and petals which are nearly smooth, sometimes clavate and sometimes setaceous at the point; lip green with purple glands and sometimes with a purple apex.

27. CALADENIA Patersoni. *R. Brown, l. c.*

C. folio lineari pilosiusculo caule 1-floro multò breviore, vaginâ scapi subfoliaceâ apice setaceâ, sepalis petalisque acuminatissimis glanduloso-scabris, labelli ovato-lanceolati basi pectinati apice serrati glandulis 4-6-serialibus falcatis disco apicis subverrucoso.

β, sepalis petalisque minus acuminatis latioribus, labelli disco manifestè verrucoso.

Hab. in *Tasmanniâ* R. Brown, *Everett;* in solo sterili arenaceo sub fine Octob. et Nov. initio, infrequens *Gunn,* 909. (*hab. s. sp.*)

Flowers pale greenish yellow with purple brown glands. Lip of the same colour, but with purple glands and toothings. Mr. Gunn, who has sent me numerous specimens, says that this flowers immediately after *C. pallida,* and is succeeded by *C. filamentosa.*

The var. *β* is a more dwarf plant, with larger flowers, shorter and broader sepals, more hairy leaves, and the disk of the lip below the apex manifestly tuberculated. In this latter respect C. Patersoni is very variable, some specimens having no tubercles at all. I also find the number of rows of glands along the lip uncertain, sometimes 4 sometimes 6.

28. CALADENIA longicauda. *Lindl. l. c. no.* 242. *tab. VIII.* A.

C. folio angustè oblongo canaliculato villosissimo caule furcato elato multò breviore, sepalis petalisque filiformi-acuminatissimis glandulosis.

labello ovato-oblongo obtuso basi cordato fimbriato ultra medium serrato: glandulis conformibus 4-6-seriatis versus apicem evanescentibus.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

Varies in height from one to two feet, and proportionably in the size of the flowers.

29. Caladenia discoidea. *Lindl. l. c. no.* 243.

C. folio oblongo-lineari obtuso villoso caule subbifloro breviore, sepalis petalisque acutissimis aristatis, labelli ovalis pectinati disco glandulis depressis sine ordine onusto.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

Flowers yellowish green streaked with purple; veins, glands, and fringes of the lip of the same colour. In this species and probably in the next the acumination of the sepals and petals, characteristic of his section, almost disappear.

30. Caladenia gracilis. *R. Brown, l. c.*

C. "perianthii foliolis acutis, labelli glandulis quadriseriatis lobis lateralibus latioribus quam longis nudiusculis, intermedio breviter fimbriato; disco basi glanduloso."

Hab. in *Tasmanniâ,* R. Brown.

CCXXXV. GLOSSODIA.

Glossodia. *Brown prodr.* 1. 325. *Endlich. gen. no.* 1594.

Perianthium patens, petaloideum, sepalis petalisque æqualibus. Labellum dissimile, brevius, indivisum, eglandulosum, appendice inter ipsum et columnam. Columna membranaceo-dilatata. Pollinia 4.——Herbæ terrestres, pilosæ, Australasicæ, bulbosæ. Folium radicale unicum, basi vaginâ membranaceâ inclusum. Scapus medio vaginatus, uniflorus vel apice furcatus et biflorus.

1. Glossodia major. *R. Brown, l. c. Endl. ic. gen.* 1594.

G. labello ovato acuto apice glabro basi pubescente, appendice unguiculatâ labello multò breviore apice bilobâ laciniis patentibus acutis.

Hab. in *N. Hollandia;* juxta Portum Jackson *R. Br.,* in ora meridionali *Miller,* Tasmanniâ circa Circular Head abundè, alibique in solo sterili sabuloso, med. Oct. *Gunn* 608. (*hab. s. sp.*)

A plant extremely variable in stature and in the size of the flowers. The stem is from 4 inches to a foot in height, and while my original specimens from Dr. Brown have the petals not more than 9 lines long, I find them as much as an inch long in others from the south coast of N. Holland. The flowers are brilliant blue.

2. Glossodia minor. *R. Brown, l. c.*

G. labello ovato acuto apice glabro basi pubescente, appendicis bipartitæ laciniis obtusis parallelis labello multò brevioribus.

Hab. in *N. Hollandia,* ad Portum Jackson, *R. Brown.* (*hab. s. sp.*)

This also seems to vary much in the size of its flowers; unless different species are combined by the character above assigned to this plant.

§ Elytranthera. *Columna supra antheram producta.* (Elythranthera *Endlich. Dic. no.* 20.)

3. Glossodia emarginata.

G. labello oblongo-lineari retuso glabro medio geniculato, appendicibus 2 linearibus truncatis parallelis labelli longitudine, caule unifloro.

Hab. in *N. Hollandia* occidentali ad *Swan River, Drummond.* (*hab. s. sp.*)

It is probable that this is included by Endlicher in the next species, and perhaps rightly. I however separate it because of its constantly (?) one flowered scape, and the differences in the labellum noticed in the specific character. In both this and the following the leaves are much less conspicuously fringed with glandular hairs than in *G. major* and *minor.*

4. Glossodia Brunonis. *Endl. dec. no.* 20.

G. labello lineari obtuso glabro geniculato, appendicibus 2 oblongis acuminatis obtusis labello subæqualibus, caule apice furcato.

Hab. in *N. Hollandia*; ad Swan River, *Drummond*, Hugel. (*hab. s. sp.*)

Flowers apparently blue, with deeper spots of the same colour.

CCXXXVI. CALOPOGON.

Calopogon. *R. Brown in Hort. Kew. V.* 204. (1813).——Cathea. *Salisbury in Hort. Trans.* 1. 261. (1812).

Perianthium explanatum, petaloideum, sepalis petalisque subæqualibus. Labellum (posticum) liberum, disco barbatum, apice dilatatum, basi angustatum. Columna apice alata, elongata, stigmate transverso rimoso. Anthera sessilis, subrotunda, bilocularis; connectivo obsoleto.——Herbæ tuberosæ, Americæ septentrionalis. Scapus nudus, basi vaginatus. Folia solitaria, graminea, basi vaginantia. Racemus terminalis, secundus.

1. Calopogon pulchellus. *R. Brown, l. c. Sweet British flower garden, II. t.* 115. *Elliott Carol.* 499.

C. folio ensiformi acuminato subquinquenervi, scapo 2-4-floro, labelli ungue basi utrinque auriculato laminâ cuneatâ rotundatâ infra apicem villosâ medio glandulosâ basi lamellis tribus multipartitis in unguem decurrentibus auctâ.

Limodorum tuberosum. *Linn. syst. veg.* 680. *Bot. Mag. t.* 116.
Cymbidium pulchellum. *Swartz n. act. ups.* 6. 75. *Willd. sp. pl. no.* 42.
Cathea pulchella. *Salisb. l. c.*
Ophrys barbata. *Walt. Carol. p.* 22.

Hab. in *Americâ septentrionali*; Canada, *Gouldie*, &c., Nova Scotia, *Menzies*, New Orleans, *Drummond*, inter muscos et gramina aquatica in insulis fluitantibus Carolinæ, Elliott, Texas *Drummond.* (*hab. s. sp.*)

2. Calopogon parviflorus.

C. folio filiformi stricto, scapo 3-5-floro, labelli ungue oblongo margine

revoluto laminâ rotundato-cuneatâ apiculatâ infra apicem pubescente basi lamellis 3 haud decurrentibus in glandulis clavatis solutis cristatâ.

? C. pulchellus var. graminifolia. *Elliott, l. c.*

Hab. in *Am. septentrionalis* provinciis meridionalibus; prope New Orleans, *T. Drummond* 329. (*hab. s. sp.*)

It is probable that this is the pine-barren variety mentioned by Elliott when speaking of *C. pulchellus*, but if so the name is very inapplicable. Its small flowers, closely arranged in a onesided spike, and the remarkable form of the labellum, distinguish it readily.

3 Calopogon multiflorus.

C. foliis rigidis . . . . . , spicâ multiflorâ quaquaversâ, labelli ungue alato laminâ cuneatâ truncatâ apiculatâ medio pilis filiformibus subconformibus barbatâ, sepalis petalisque ovatis acutis.

Hab. in *Florida*, *F. Cozzens*. (*hab. s. sp. comm. cel. Torrey.*)

A very distinct species with flowers as small as those of *C. parviflorus*, and as many as 10 in a cylindrical spike. The leaves in my specimens are burnt, as if the district in which they were growing had been fired, and therefore, I am unable to judge what they are in a natural state. The sepals and petals appear to be much more acute than in either of the other species.

CCXXXVII. CRYBE.

Crybe. *Lindley Nat. syst. ed.* 2. *p* 446. *in Bot. Register, t.* 1872.

Perianthium ventricosum, inapertum. Sepala herbacea, lanceolata, lateralia basi obliqua. Petala conformia, petaloidea. Labellum multò majus, membranaceum, cucullatum, cum columnâ clavatâ marginatâ semiconnatum. Columna basi teres, ultra insertionem labelli marginata, pauld supra labellum bidentata, apice subcucullata. Anthera polline granulari. ——— Herbæ tuberosæ, mexicanæ, foliis plicatis. Scapus radicalis, squamis distantibus vaginatus. Flores penduli racemosi.

1. Crybe rosea. *Lindl. l. c.*

Hab. in *Mexico*; (*v. v. c.*)

In the systematical index to the Botanical Register, I was led to refer to this plant the Bletia campanulata of Llave, upon the authority of Mr. Bateman, who saw it so labelled in Professor Kunth's herbarium at Berlin. I have however met among Mr. Hartweg's plants with a Bletia quite agreeing with the description of the Mexican Botanists, and therefore I presume there is some mistake in supposing it to be Crybe.

CCXXXVIII. ANTHOGONIUM.

Anthogonium. *Wall. mss. Lindl. nat. syst. ed.* 2. *p.* 341.

Perianthium tubulosum, apice ringens. Sepala in tubum longum con-

nata, lateralibus latioribus, apice obliquis. Petala spathulata, collateralia, apice oblique inflexa. Labellum integerrimum apice truncatum apiculatum, vel obsoletè trilobum, columnam amplexans eique semiadnatum, intùs nudum. Columna semiteres, clavata, stigmate excavato. Anthera terminalis, bilocularis, stipitata, loculis disjunctis parallelis. Pollinia 4, per paria apicibus connata.———Herba (epiphyta ?) Indica, acaulis, radicibus fibrosis. Folia lata, graminea. Scapus radicalis, basi vaginatus, apice racemosus.

I know this genus only from a bad dried specimen, a single imperfect flowerbud, and an Indian drawing. The pollen masses I have not seen, but they seem to be powdery if I can trust the Indian drawing. Perhaps it ought to be stationed near Acanthophippium.

1. Anthogonium gracile. *Wallich. Cat. Herb. Ind. no.* 7398.

Hab. in *Napalia, Wallich.* (*hab. s. sp. et v. ic. pict.*)

Folia sesquipedalia, 4-8 poll. lata, graminea, radicalia, scapus foliis paulò brevior, apice flores 7-8, pollicares, sanguineos in racemo gerens. Petala linearia, acuta, libera, sepalis angustiora.

CCXXXIX. ARETHUSA.

Arethusa. *Gron. virg.* 184. *Swartz. act. holm.* 1800. *p.* 230. *t.* 3. *f.* 0. *Brown. H. K.* 5. 205. *Endlicher. genera no.* 1602.

Perianthium galeatum, sepalis basi cohærentibus, petaloideis, ascendentibus. Petala conformia, fornicata. Labellum basi columnæ adnatum, supernè cucullatum, disco intùs villosum. Columna apice petaloideo-dilatata. ——— Herba boreali-americana, terrestris, aphylla, tuberosa, scapo unifloro distanter squamato. Flos terminalis, basi bibracteolatus.

1. Arethusa bulbosa. *Linn. sp. pl.* 1346. *Willd. sp. pl.* 4. 80. *Pursh. fl. am. sept.* 2. 590. *Lam. illustr. t.* 729. *fig.* 1. *Bot. Mag. t.* 2204. *Lodd. Bot. Cab. t.* 1170. *Bauer's illustr. t. VII. fructification.*

Hab. in *America septentrionali*; Canada *Gouldie*, Nova Scotia *Menzies*, usque ad Carolinam in sphagnetis Pursh. (*hab. s. sp.*)

Flowers purple, sweet-scented.

Arethusa petræa, *Afzelius in Pers. syn.* 2. 512, is perhaps the same as Galeandra extinctoria.

Arethusa tigridiæfolia, *Llave orch. mex.* 2. 14., does not belong to the genus, nor do I know what it can be.

CCXL. ERIOCHILUS.

Eriochilus. *Brown Prodr.* 1. 323. *Endlich. gen. no.* 1592.

Perianthium bilabiatum, sepalo supremo breviore erecto, lateralibus ungui-

culatis, majoribus labello suppositis. Petala sepalo supremo conformia, erecta. Labellum unguiculatum, inappendiculatum, indivisum, pubescens, eglandulosum. Columna semiteres, aptera. Pollinia 4.——— Herbæ australasicæ, terrestres. Folium radicale solitarium, angustum, basi cucullatum, vaginâ scabiosâ sæpè inclusum. Scapus nudus. Flores pauci, secundi, racemosi, albi vel purpurascentes, extùs pube glandulosâ brevissimâ conspersi.

1. Eriochilus autumnalis. *R. Brown, Prodr.* 323. *Endl. ic. gen. t.* 1592.

E. folio epigæo ovato basi cucullato, caule 1-plurifloro puberulo, bracteis subrotundis membranaceis ovariisque pubescentibus, petalis apice dilatatis denticulatis, labello obovato revoluto, sepalo dorsali columnâ paulo longiore, antheræ rimâ glabrâ.

Epipactis cucullata. *Labill. nov. Holl. t.* 211. *f.* 2.

Hab. in *N. Hollandia,* juxta portum Jackson, *R. Brown,* in sylvis coloniæ abundè florens Marte Maio, *A. Cunningham,* nec non in Tasmanniâ, Marte Aprili *Gunn,* 607. (*hab. s. sp.*)

Folia post flores, *Gunn.*

2. Eriochilus scaber. *Lindl. Swan River, pl. no.* 247.

E. folio epigæo coriaceo subrotundo-ovato acutissimo, caule nano unifloro ovario bracteâque oblongâ scabris.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

3. Eriochilus tenuis. *Lindl. l. c. no.* 248.

E. folio epigæo membranaceo ovato-oblongo elongato obtuso, caule tenui unifloro bracteâque ovatâ glabris, ovario tomentoso.

Hab. cum præcedente. (*hab. s. sp.*)

4. Eriochilus dilatatus. *Lindl, l. c. no.* 249.

E. folio medio caulis inserto lineari-lanceolato coriaceo basi dilatato, caule paucifloro ovariisque glabris.

Hab. cum præcedente. (*hab. s. sp.*)

5. Eriochilus latifolius. *Lindl. l. c. no.* 250.

E. folio medio caulis inserto lineari-oblongo, caule multifloro apice pubescente, bracteis oblongis ciliatis rachi ovariisque tomentosis, labello subrotundo, sepalo dorsali columnâ multò longiore, antheræ rimâ tomentosâ.

Hab. cum præcedente. (*hab. s. sp.*)

6. Eriochilus multiflorus. *Lindl. l. c. no.* 251.

E. folio medio caulis inserto ovali acuminato, caule multifloro apice pubescente, bracteis oblongis ciliatis rachi ovariisque tomentosis, labello ovali obtuso, sepalo dorsali columnâ paulò longiore, antheræ rimâ glabriusculâ.

Hab. cum præcedente. (*hab. s. sp.*)

Flowers much smaller than in the last species.

CCXLI. SPICULÆA.

Spiculæa. *Lindl. in Swan River plants, no.* 264.

Sepala et petala linearia, conformia, patentia. Labelli unguis elongatus, teres, inarticulatus; lamina linearis, peltata, apice appendice mobili aucta. Columna elongata, arcuata, infra medium semiteres, marginata, superiùs alata: alis marginantibus, basi liberis falcatis, apice circa antheram in cucullum breve quadrilobum confluentibus: lobis lateralibus longioribus. Anthera terminalis, persistens, loculis approximatis. Stigma meniscoideum.

1. Spiculæa ciliata. *Lindl. l. c. fig.* 4.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

Herba spithamæa, glabra, verosimiliter fusca. Folium radicale coriaceum, cordatum, acuminatum. Scapus medio unisquamatus. Racemus multiflorus, 2-3 poll. longus. Sepala filiformia, spathulata; petala etiam angustiora, haud apice dilatata, 5 lin. longa. Labelli lamina carnosa, supra medium affixa, basi angustata ciliata retusa; appendice apicis ovali membranaceâ.

CCXLII. DRAKÆA.

Drakæa. *Lindl. in Swan River plants, no.* 263.

Sepala et petala linearia, conformia, reflexa. Labelli unguis longissimus, medio articulatus; lamina peltata, convexa, cum pede suo mobilis, decidua. Columna elongata, clavata, semiteres, basi utrinque auriculata. Anthera terminalis, persistens, loculis approximatis. Rostellum ovatum, acuminatum, convexum.

1. Drakæa elastica. *Lindl. l. c. fig.* 3.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

Radices lanatæ, apice bulbosæ. Folium radicale coriaceum, subrotundum, cordatum. Scapus erectus, pedalis, glaber, squamulâ infra medium solitariâ, uniflorus. Labellum basi tuberculatum, crinitum, angustatum, utrinque dente retrorso auctum, tactu levissimo irritabile.

CCXLIII. CALEANA.

Caleana. *Brown, prodr.* 1. 329.——Caleya. *Endlicher, gen. no.* 1598.

Perianthium bilabiatum, sepalis petalisque subæqualibus angustis. Labellum unguiculatum, limbo peltato cavo, foramine exteriore. Columna petaloidea, concava, artherâ persistente: loculis approximatis. Pollinia 4.——Herbæ terrestres, glabræ, Australasicæ, Folium radicale, unicum, lineare, basi vaginâ inclusum. Scapus nudus v. bracteâ unicâ in medio, 1-2-florus. Flores fuscovirides, labello co-

lumnâque rufis. (Labellum mobile, reflexum, irritatione inflexum, columnæ incumbens, *R. Br.*)

1. Caleana major. *Brown, Prodr.* 329. *Endl. ic. gen. t.* 1598.

C. "folio lanceolato lineari plano, scapo medio unibracteato laminâ labelli lævi: utrâque extremitate angustatâ semiovatâ."

Hab. in *N. Hollandia,* juxta Portum Jackson, *R. Brown,* in sylvis sterilibus, *A. Cunningham,* juxta Rocky Cape solo sterili arenaceo in Tasmanniâ, Dec. *Gunn,* 946. (*hab. s. sp.*)

Upon this singular plant Mr. Gunn has favoured me with the following note. "This is a most curious species. When expanded, the top is erect, resembling as my men said, the lid of an antique pewter pot; but the least shake made it close downwards with a sudden spring, so that when first collected, not aware of this peculiarity, I believed the upper parts of the flowers to have been knocked off. With the greatest care I could only get three or four specimens into my paper without the lids closed. The irritable part appeared to be the lower part of the hinge, as I tried many with ends of a straw. The colour is a dark red, pretty well preserved in drying. To me the whole looked not unlike a bird's head and body."

2. Caleana minor. *R. Brown, Prodr.* 329.

C. "folio filiformi-lineari canaliculato, scapo medio ebracteato, labelli lamina tuberculata: apice angustato bilobo."

Hab. in *N. Hollandia,* juxta Portum Jackson, *R. Brown.* (*hab. s. sp. a cel. invent.*)

3. Caleana nigrita. *Lindl. Swan River, pl. no.* 262.

C. folio ovato acuminato obtuso basi cucullato, scapo nudo, labelli laminâ lineari tuberculatâ basi subcordatâ apice angustatâ indivisâ.

Hab. in *N. Hollandia,* ad Swan River, *Drummond.* (*hab. s. sp.*)

For an account of the singular irritability of this plant see the sketch of Swan River Vegetation in the *Appendix to the first twenty-three volumes of the Botanical Register, page liv.*

Div. 3. VANILLEÆ.

Vanillaceæ. *Lindl. Nat. Syst. ed.* 2. *p.* 341.

Stigma ad columnæ apicem. Pollen pulvereum, granulosum, aut in massâ pulposâ concretum. Folia evaginata, cum caule articulata, sæpiùs reticulata glabra dura et plicata. Caulis in quibusdam scandens. Radices omnium fibrosæ. Fructus sæpiùs carnosus. Semina in Vanilla et Cyrtosia aptera, in Erythrorchi marginata, cæteris ignota.

CCXLIV. CYATHOGLOTTIS.

Cyathoglottis. *Pöppig et Endlich. n. g. et sp. I.* 55. *Endlicher, gen. no.* 1610.

Perianthium connivens, sepalis petalisque inter se et basi æqualibus. Labellum minus, facie infernè cum columnæ basi connatum, marginibus eundem amplexans; laminâ indivisâ planâ. Columna clavata, membranaceo-marginata. Anthera terminalis, opercularis . . . . .——Herbæ Peruvianæ, andicolæ, epiphytæ, radicibus repentibus cæspitosis, caulibus suffruticosis. Folia rigida, plicata. Flores spicati v. racemosi, fugacissimi, crocei v. candidi. *Endlicher, l. c. quibusdam mutatis.*

1. Cyathoglottis crocea. *Pöppig, l. c.*

C. "caule apice 2-3-floro, floribus sessilibus, labello columnam 3-plò superante."

Hab. in arboribus *Peruviæ,* ad prædium Pampayaco, rariùs, Pöppig.

Stems 1-2 feet high, simple, rigid, with a polished epidermis. Leaves articulated with their sheaths, and readily thrown off while drying, tapered into a long point which is usually bifid. Flowers yellow, very fugitive, withering by 2 P.M. *Pöppig.*

2. Cyathoglottis candida. *Pöppig. l. c. t.* 94.

C. "floribus terminalibus longè pedunculatis, pedunculis bracteatis, labello columnam dimidio superante."

Hab. in *Peruvia,* cum præcedente, Pöppig.

Stems somewhat angular, a foot high. Leaves of the same texture as those of the common reed, about 6 inches long and an inch wide. Flowers snow-white, very fugitive, so transparent and tender that they almost wither at the touch. *Pöppig.*

CCXLV. SOBRALIA.

Sobralia. *Fl. Peruv. prodr.* 120. *t.* 26. *Supra, p.* 176. *Pöpp. et Endlich. n. g. et sp. I.* 54. *Endlich. gen. pl. no.* 1611.

Perianthium maximum, petaloideum, subæquale; sepalis patentibus vel reflexis, petalis erectis. Labellum cucullatum, columnam amplexans, basi angustatum, disco plicato-barbatum, apice bilobum. Columna elongata, marginata, clavata, apicis trifidi lobo medio cucullato anthérifero. Stigma marginatum, basi gibbere gemino nectarifero. Anthera terminalis, stipitata, semiquadrilocularis. Pollinia farinacea, 4, compressa, posticè cohærentia et contortuplicata, ecaudiculata.——Herbæ Americæ æquinoctialis, terrestres, simplices, sæpe triorgyales, foliosissimæ; foliis plicatis; floribus racemosis terminalibus, vel axillaribus geminis, niveis, roseis, sanguineis, violaceisve. Omnes ferè species loca rupestria, sicca, aprica, calidissima eligunt, dumeta sæpius ampla formantes.

Character reformatus ad Pöppigium et Endlicherum, paucis tantum mutatis.

1. Sobralia dichotoma. *Fl. Peruv. syst.* 232. *prodr. t.* 26. *Pöppig et Endl. l. c.* 54.

S. caule lævi, foliis ovatis longè acuminatis, racemis axillaribus solitariis bifidis multifloris, labelli crenati laceri disco carinato crispo filisque uncinatis barbato.

Hab. abundè in *Peruviæ* nemoribus Muña, Pozuzo, et Chinchao per runcationes in locis calidis et saxosis, Ruiz et Pavon; in summitate scopulosa et fruticosa jugi Casapillo, Pöppig. (*v. s. sp. in herb. Lambert.*)

Stem from 12 to 20 feet high, sometimes forming impervious thickets. Flowers 2 inches long, white without, violet within. According to Pöppig they smell like wallflowers, but do not open for more than 20 days together, in the month of January. The Peruvians name it *Flor del paraiso*, because of its extraordinary beauty. The Indian name according to the Flora Peruviana is *Tahuetahue.*

2. Sobralia fimbriata. *Pöppig, l. c.*

S. caule scabrido, foliis latè ovalibus brevitèr acuminatis, flore terminali solitario, labelli fimbriati disco setis carnosis barbato, petalis lacero-ciliatis.

Hab. in *Peruvia.* Omnium rarissima, semèl lecta in trunco arboris vetustæ collapso crepidinis obscuræ ad prædium Pampayaco, mense Februario, Pöppig.

Stems 2 feet high. Flowers 2 inches long, snow white.

3. Sobralia setigera. *Pöppig, l. c.*

S. foliis ovato-oblongis longè acuminatis chartaceis vaginis terminalibus bracteisque in strobilum bi-triflorum imbricatis setoso-scabris, labelli fimbriati margine cristis multifariis ancipitibus.

Hab. in *Peruvia*; rarò in scopulosis sylvestribus jugi montium inter Cuchero et Casapi prædia siti, loco Cussapillo dicto; floret Januario, Pöppig.

Stems weak, about as high as a man. Bracts chesnut coloured inside. Flowers about 2 inches long, snow white according to Pöppig.

4. Sobralia rosea. *Pöppig. l. c. t.* 93.

S. foliis oblongis acuminatis basi angustatis, racemo flexuoso paucifloro, bracteis alternis distichis distantibus cymbiformibus glabris, labello obcordato inciso undulato subplicato setis carnosis secus venam mediam parcè barbato.

Hab. in *Peruvia*; in runcationibus prope Cuchero, Pöppig, (*hab. s. sp ab. indef. Matthews no.* 1894.)

Stems 4 to 6 feet high, wavy at the upper end. Inflorescence like that of a Heliconia. Flowers 3 inches long, when expanded as much as four inches across, pale lilac, exceedingly beautiful. The two lateral sepals are sometimes united into one. *Pöppig.*

5. Sobralia macrantha. *Sertum Orchidaceum, sub t.* 29.

S. foliis ovalibus acuminatis basi planis, bracteis strobili (uniflori ?) imbricatis glabris, petalis oblongis, labello emarginato plano glabro.

Hab. in Mexico, *Karwinski*; in rupibus umbrosis Hacienda de la Laguna, Julio, *Schiede*; Hacienda del Carmen, *Hartweg*. (*hab. s. sp.*)

Flowers the largest in the genus, when dried as much as four inches long, rose colour. From their being exceedingly pressed in drying I am unable to ascertain the exact form and surface of the parts.

6. Sobralia Liliastrum. *Supra, p.* 177. *Sertum Orchidaceum, t.* 29.

S. foliis lanceolatis acutissimis vaginisque striatis glaberrimis, racemo multifloro disticho, rachi flexuosâ, bracteis ovatis acuminatis spathaceis distinctis, sepalis patentibus angustis lanceolatis acuminatis, petalis conformibus undulatis, labello undulato-crispo plicato emarginato pubescente venis elevatis flabellatis, alis columnæ maximis falcatis.

Hab. in *Bahiam*, in fruticetis sabulosis, *Salzmann*; in *Guayanâ anglicâ Schomburgk, no.* 1059. (*hab. s. sp.*)

Stems 10 to 12 feet high. Flowers large, pendulous, white or bright rose colour; the former the genuine colour of the species, the latter a variety, or according to Schomburgk a distinct species. Both are figured in the Sertum Orchidaceum.

7. Sobralia biflora. *Fl. Peruv. Syst.* 232.

S. "bulbis fasciculatis, foliis oblongo-lanceolatis acutissimis, culmis bifloris."

Hab. in *Peruvia*, in *Pozuzo* runcationibus et calidis locis, versus *Cheniço* et *Tramo* tractus: Ruiz et Pavon.

Floret a Maio ad Septembrem.

8. Huc etiam fortassè referenda est *Bletia ciliata* Presl. Reliq. Hænk. p. 99. quæ *S. dichotoma* esset, si flores majores.

Hab. in *Peruvia*.

CCXLVI. EPISTEPHIUM.

Epistephium. *Kunth. in Humb. et Bonpl. n. g. et sp. pl. VII.* 158. *Endlicher. gen. no.* 1612.

Perianthium basi urceolo dentato cinctum. Sepala patentia v. reflexa libera; lateralia labello supposita. Petala angustiora. Labellum sessile, liberum, indivisum, circa columnam convolutum, disco barbatum v. cristatum. Columna semiteres, marginata, infra stigma bituberculata, apice membranacea, dilatata, trifida, lobo medio cucullato antherifero. Anthera terminalis, persistens, loculis approximatis semiquadrilocularis. Pollinia 4, compressa, basi retroplicata——Herbæ Americæ æquinoctialis, terrestres. Folia reticulata, nervosa, evaginata. Flores maximi conspicui.

According to Pöppig and Endlicher this genus differs from Sobralia in little except the presence of a calyculus at the apex of the ovary. The

same character occurs more or less completely in most Vanillas, and is very conspicuous in Vanilla palmarum.

1. Epistephium elatum. *Kunth. in H.B.K. nov. gen. et sp. 6. t. 632.*

E. foliis sessilibus amplexicaulibus oblongis acuminatis basi rotundatis multinerviis, floribus spicatis, bracteis ovato-oblongis acutis ovario dimidio brevioribus, labello obsoletè trilobo internè barbato: lobis lateralibus columnam involventibus intermedio crenato undulato, columnæ auriculis rotundatis.

Hab. in regno *N. Granatensi,* prope Santannam alt-400 hexap; florens Julio, HBK; (*Brazilia,* in prov. Goyaz, Pohl, secundum cel. Pöppigium.)

2. Epistephium sclerophyllum.

E. foliis sessilibus subrotundo-ovatis ovatisque amplexicaulibus coriaceis multinerviis marginatis reticulatis, spicâ elongatâ multiflorâ, bracteis minutis squamæformibus, labello obovato undulato crispo indiviso convoluto secus medium retrorsum ramentaceo.

Hab. in *Brazilia,* prov. Min. Ger. *Martius,* (*v. s. sp. in hb. Martius.*)

Is this the plant found in the province of Goyaz by Pohl, and referred by Pöppig to the E. elatum? If the figure of the latter in Humboldt is correct this must be different.

3. Epistephium amplexicaule. *Pöppig et Endlicher, nov. gen.* 1. 52. *t.* 91.

E. caule ramoso, foliis cordato-semiamplexicaulibus ovato-oblongis acuminatis coriaceis utrinque nitidis parum reticulatis multinerviis, spicâ terminali elongatâ, bracteis foliaceis ovario paulò brevioribus, petalis revolutis, labello subrotundo obcordato cucullato margine lacero secus medium barbato.

Sobralia amplexicaulis. *Fl. Peruv. syst.* 233. *Supra, p.* 177. *no.* 5.

Hab. in *Peruviæ* versuris et fruticetis calidis, florens ab Octobre ad Februarium; versus Chihuamccala in viciniis Cuchero, Pöppig. (*hab. s. sp. comm. cel. Matthews, no.* 1893.)

Stem from 3 to 7 feet long. Raceme as much as 10-flowered. Flowers campanulate, crimson, according to Pöppig.

4. Epistephium monanthum. *Pöppig et Endlich. l. c.* 1. 53. t. 92.

E. caule simplici, foliis ovato-oblongis basi cucullatis subcordatis membranaceis flaccidis multinerviis glaucis, flore terminali solitario, bracteâ spathaceâ ovario longiore, petalis erectis, labello obovato integerrimo convoluto plano secus medium bilamellato ecristato.

Hab. in *Peruviæ* fruticetis graminosis aridiusculis inter Cuchero et Chihuamccala, flor. Dec. Pöppig.

Stem erect, simple, 2 feet high. Flowers about 2 inches long; sepals yellowish lilac with 2 mucros at their point; petals white, deep violet at the point, according to Pöppig.

5. Epistephium parviflorum.

E. foliis petiolatis ovato-lanceolatis acuminatis reticulatis septuplinerviis, bracteis minimis acutis, spicis terminalibus et axillaribus laxis multifloris, floribus cernuis, labello crinito.

Hab. in *Guayanâ Britannicâ;* in pratis lacus Tapakomæ littorali Arabisie, nec non secus flumina Demerara et Berbice, *Schomburgk.* (*hab. s. sp.*)

Four or five feet high according to Mr. Schomburgk. I have only been able to examine a flowerbud of this very distinct species, and from its crushed state I am unable to ascertain the form of the parts. The flowers when dry are 7 lines long, and appear to have been pink.

CCXLVII. VANILLA.

Vanilla. *Plumier. Swartz. nov. act. ups.* 6. *p.* 66. *t.* 5. *f.* 1. *Endlicher. gen. no.* 1614.
Myrobroma. *Salisb. parad.* 82.

Perianthium apice tantùm patens, cum ovario articulatum, sæpiùs caliculatum. Sepala et petala subæqualia, conformia, basi libera. Labellum cum columnâ connatum, integrum, concavum, medio barbatum. Columna elongata, aptera. Anthera terminalis, opercularis. Pollinia 2, biloba, granulosa. Fructus siliquiformis, carnosus, a latere dehiscens, placentis 3-6 seminiferis. Semina globosa, testâ arctè adnatâ, crustaceâ, fragili. ——— Herbæ scandentes, Americæ et Asiæ tropicæ incolæ. Caules teretes. Folia cum caule articulata, carnosa, basi subcordata. Flores carnosi. Fructus in quibusdam aromaticus, oleo essentiali et acidi benzoici crystallis scatens.

1. Vanilla aromatica. *Swartz. in act. ups.* 6. *p.* 66. *R. Brown, in Hort. Kew. v.* 220.

V. foliis ovato-oblongis acuminatis sessilibus, perianthii campanulati laciniis 5 undulatis acuminatis apice revolutis, labello acuminato basi cucullato lineâ mediâ nudâ elevatâ (capsulis cylindraceis longissimis.)

Vanilla flore viridi et albo, fructu nigricante. *Plum. ic.* 183. *t.* 188.
Epidendrum Vanilla. *Linn. sp. pl.* 1347.

Hab. in *America meridionali,* in sylvis subhumidis montium, Swartz.; in *Brazilia,* prope Rio Janeiro, Gardner 632, in prov. Min. Ger. *Martius.* (*hab. s. sp.*)

The only specimens of this plant which I have met with are from Brazil, and they perfectly agree with Plumier's figure on which the species is founded. I do not however find that the leaves are more ribbed than in other species, and it does not appear that any of the Brazilian Vanillas form the substance known in trade. A kind of Vanilla is said to be preserved in sugar in Brazil and used in the country, or occasionally sent to Lisbon, but it is not fit to dry for the purpose of commerce. Can this be Schiede's *V. Pompona, no.* 11? It is certainly to be suspected that V. aromatica has nothing to do with the fruits of commerce.

2. Vanilla claviculata. *Swartz. in Schrad. Journ.* 1799. 2. *fig.* 1. *fl. ind. occ.* 1515.

V. foliis lanceolatis acutis concavis recurvatis rigidis, floribus aggregatis, sepalis carnosis ovato-lanceolatis obtusis concavis, petalis ovato-lanceolatis obtusis posticè carinatis, labelli limbo ovato dilatato deflexo undulato-crispo ungue sulco hirsuto-ciliato exarato; ciliis ramentaceis multifidis, fructu oblongo insipido.

Epidendrum claviculatum. *Swartz. prodr.* 120.
Cerei affinis, &c. *Sloane p.* 160. *t.* 224. *f.* 3. 4.

Hab. in *Antillis,* in sylvis interioribus locis montosis calcareis siccissimis, Swartz.

Flowers large white. The plant is called in Jamaica Greenwith among the negroes. A decoction of the whole plant is thought by them of great value in siphilitic cases. In Hispaniola the expressed juice is employed as a vulnerary, and the plant is named *Liane à blessure.* The taste is bitter, the smell that of Orchidaceæ but very powerful, *Swartz.*

3. Vanilla planifolia. *Bot. Repos. t.* 538. *R. Brown in Hort. Kew. V.* 220. *Bauer's illustr. Genera, tt.* 10 *et* 11. *Blume Rumphia,* 1. 197. *t.* 68. *Morren in Ann. of Nat. History,* 3. 1.

V. foliis oblongo-lanceolatis planis obsoletè striatis, sepalis petalisque oblongis erectis obtusiusculis, labelli laminâ emarginatâ crenatâ crispâ utrinque recurvâ medio lamellis brevibus transversis cuneatis dentatis retrorsùm imbricatis cristatâ sub apice verrucosâ, columnâ antice pilosâ, fructu cylindraceo longissimo odoratissimo.

Myrobroma fragrans. *Salisb. parad. t.* 82.
Vanilla viridiflora. *Blume, bijdr.* 422.

Hab. in *India occidentali,* Aiton ; unde Angliæ apportata in *orientalis* insulis migravit. (*hab. s. et v. v. c.*)

This is the species from which Professor Morren has succeeded in obtaining excellent fruit in the Botanical Garden at Leyden. And it is highly probable that it is the source of at least some part of the Vanilla of commerce. The botanist just quoted regards Schiede's *V. sylvestris* as being probably a synonym of *V. planifolia,* but there is no sufficient evidence to shew that this is so. (See Morren in *Annals of Natural History, vol.* 3. *p.* 1. for a detailed account of the culture &c. of Vanilla.)

4. Vanilla albida. *Blume Bijdr.* 422. *c. analysi. Rumphia* 1. 197. *t.* 67.

V. foliis petiolatis lanceolatis crassis planis obsoletè nervosis, spicis 3-9 floris, labelli limbo ovato rotundato anticè et in fauce disco barbato instructo, columnâ glabrâ, fructibus triquetris falcatis inodoris.

Hab. in sylvis intactis uvidis et montanis *Javæ* ; juxta fluvium Tjapus, circà montes Salak, in montosis Parang, cet. semper ferè florens, Blume.

Fruit about 3 inches long, shining, pale green, with brown spots. Sepals and petals greenish. Labellum milk white.

5. Vanilla grandiflora.

V. foliis . . . . , spicâ brevi multiflorâ, bracteis latis rotundatis striatis, sepalis petalisque elongatis rectis planis oblongis obtusiusculis basi angustatis, labelli retusi apiculati crispi limbo basi lamellis brevibus transversis cuneatis dentatis retrorsùm imbricatis cristato sub apice glabro venis paulò elevatis, columnâ anticè pilosâ.

Hab. in *Guayanâ Gallicâ, Martin.* (*hab. s. sp. comm. amic. N. B. Ward.*)

Although I have seen nothing more of this plant than a cluster of dried flowers, there can be no doubt of its distinctness from all those, the flowers of which I have examined. It is nearest V. planifolia from which its

larger flowers, much narrower and longer sepals and petals, and the absence of tubercles from the tip of the labellum at once distinguish it.

Whether or not it is one of the kinds seen in Cayenne by Aublet, it is not possible for me to determine. This author says there are three kinds in that country, one of which agrees with Plumier's figure, and is therefore *V. aromatica*; another (*la petite Vanille*) has the pods only 3 inches long, by an inch and a half in diameter, and must be a very different species; the third or *grosse Vanille* is not described. See this author's account of the culture &c. of the Vanilla in his *Plantes de la Guiane Française, vol. 2. p. 77. appendix.*

6. VANILLA bicolor. *Lindl. in Bot. Reg.* 1838. *misc. no.* 58.

V. foliis ovato-oblongis subsessilibus acutis striatis margine rubescentibus, sepalis lineari-lanceolatis acutis patentibus dorso rotundatis, petalis conformibus carinatis, labello membranaceo semilibero convoluto apiculato undulato: venis ramentaceis in medio densè stuposis, columnâ barbatâ, clinandrii auriculis crenulatis.

Hab. in *Demerara, Schomburgk.* (*v. v. c. in herb. Loddiges.*)

Very fragrant. The flowers are pale, three inches long, with dull red sepals and petals, and a cream coloured lip.

7. VANILLA Palmarum.

V. foliis ovatis subcordatis brevi-petiolatis succulentis, floribus geminis, sepalis petalisque angustis oblongis erectis planis, labello membranaceo . . . ., ovario calyculato.

Epidendrum Palmarum. *Salzmann. pl. exsicc. braz.*
Epidendrum Vanilla. *Flora fluminensis c. ic.*

Hab. in *Bahia* in caudicibus palmarum, *Salzmann.* (*hab. s. sp.*)

I have endeavoured in vain to ascertain the structure and form of the lip in three specimens of this plant, which I have had the opportunity of examining. It is however from all the other described species clearly different in its ovate subcordate leaves, and in the calyculus, which although often present in others in an obscure degree is not, that I am aware of, ever so large.

8. VANILLA aphylla. *Blume Bijdr.* 422. *Rumphia,* 1. 198. *t.* 68.

V. aphylla, pedunculis subtrifloris, labelli limbo undulato obtuso medio barbato, antherâ bilobâ, fructu cylindraceo (insipido?)

Hab. in alluvialibus *Javæ* regionibus, inter frutices et ad margines sylvarum; etiam in insulâ *Nusa Kambangan* in virgultis prope litus, Blume; in Indiæ peninsulâ *Wight.* (*hab. s. sp. cel. Wight.*)

My specimens of this plant from Dr. Wight agree with the figure and description of Blume so far as I can discern, from their crushed state, except in the number of flowers, which are more than 5 instead of 3; the limb of the lip also appeared to me acute in the only flower I have been able to dissect. According to Blume the flowers which are green, with a violet labellum, are extremely sweetscented.

Besides these we have the following additional species mentioned by Schiede in the *Linnæa, vol. IV. p.* 573. the accounts of which are too imperfect for me to ascertain how they should be characterized. Their flowers are all unknown.

9. VANILLA *sativa*; foliis oblongis succulentis, floralibus minimis, fructibus esulcatis.

Baynilla mansa *Hispano-Mexicanorum*.

Hab. in *Mexico*; sponte Papantlæ, Misantlæ, Nautlæ et Colipæ inque iisdem pagis colitur.

Probably confounded with *V. planifolia*. Its Vanilla is considered the best of all, and is an object of cultivation.

10. VANILLA *sylvestris*; foliis oblongo-lanceolatis succulentis, floralibus minimis, fructibus bisulcatis.

Baynilla cimarrona *Hispano-Mexicanorum*.

Hab. in *Mexico*; Papantlæ, Nautlæ, Colipæ.

Probably confounded with *V. planifolia*. The fruit is mixed with that of V. sativa when gathered.

11. VANILLA *Pompona*; maxima, foliis oblongis succulentis subinde latissimis et basi subcordatis, floralibus minimis, fructibus bisulcatis.

Baynilla Pompona *Hispano-Mexicanorum*.

Hab. in *Mexico*; Papantlæ et Colipæ.

In the form of leaves this almost agrees with V. sativa, the fruit is the largest of all, rich in ethereal oil and with an agreeable odour; yet as it will not dry, but always remains soft, it cannot be transmitted to Europe as an article of commerce.

12. VANILLA *inodora*; foliis ovali- vel ovato-lanceolatis membranaceis, floralibus maximis, fructibus bisulcatis inodoris.

Baynilla de puerco *Misantlensium*.

Hab. in *Mexico*, Misantlæ.

A very distinct species; with insipid fruit.

There is also a *Vanilla de mono*, cultivated in Mexico. The *Baynilla mestiza* is nothing but a sample of fruit intermediate between that of *V. sativa* and *V. sylvestris*. For further particulars concerning this fruit see the *Linnæa* and the *Rumphia* at the places quoted.

Vanilla angustifolia. *Willd. sp. pl.* 4. 121, founded upon Angurek-warna *Kæmpf. amœn. t.* 869. *f.* 1. is a Javanese, not a Japanese plant, and, according to Blume, (*Rumphia* 1. 197), must be removed from the genus.

CCXLVIII. CYRTOSIA.

Cyrtosia. *Blume Bijdr.* 396. *tabellen* 6. *Suprà p.* 25. *Endl. gen. no.* 1613. *Blume Rumphia*, 1. *p.* 199. *t.* 69.

Perianthium pentaphyllum, erecto-connivens. Labellum ecalcaratum, imâ basi columnâ continuum; limbo erecto integerrimo. Columna basi teres, sursum dilatata utrinque alata dentata, apice subfornicata. Anthera bilocularis. Pollinia 2, tereti-falcata, farinoso-pulposa, libera. Bacca siliquiformis, carnosa. Semina in pulpâ nidulantia, aptera.——— Herba terrestris, caulescens, aphylla. Caules ramosi, erecti, squamati. Flores fusci, carnosi, laxè spicati; ad *Blume.*

According to Blume the pollen-masses of this genus are in each cell combined into a free rather solid mass, after the manner of Malaxideæ; to which I formerly referred it.

1. Cyrtosia javanica. *Blume l. c. Rumphia t.* 69.

Hab. in *Java* occidentali, in saltibus altiorum montium, veluti in monte Salak, super agros Coffeâ consitos elevatiores, Blume.

A plant with the aspect of an Orobanche. Flowers fleshy, brittle, middlesized, pale pink changing to dull yellow. Fruit fleshy, red, falcate, pendulous, about 2 inches long; according to Blume.

CCXLIX. ERYTHRORCHIS.

Erythrorchis. *Blume Rumphia.* 1. 200. *t.* 70.

Omnia Cyrtosiæ, sed labellum semitrilobum plicatum, columna aptera, capsulæ inanes rimis longitudinalibus obsoletis dehiscentes, et semina membranaceo - marginata. ——— Herba terrestris aphylla. Caules sarmentosi, nodoso-articulati, ad nodos radicantes, squamis solitariis pro foliis instructi. Flores laxè spicati, *Blume.*

1. Erythrorchis altissima, *Blume, l. c.*

Cyrtosia altissima. *Blume Bidjr.* 396. *Supra. p.* 26.
Vanilla pterosperma. *Lindl. in. Wall. cat. no.* 7402.

Hab. in *Singapur, Wallich*; in *Javæ* provinciis occidentalibus, in sylvis, præsertim montium calcareorum, Blume. (*hab. s. sp.*)

The stems of this curious plant are from 50 to 120 feet long, scramble over trees, and are of a pale dull red. The flowers are middle sized, whitish yellow; the lip is white tinged with pale blue, and is described by Blume as being " erect, concave, half 3-lobed, with the lateral divisions rounded, transversely streaked with purple inside, surrounding the column, and united to it at the bottom; below the middle lobe which is milk white and plaited, is found a somewhat downy fleshy prominence, and lower still a broad projecting longitudinal downy band." The capsules are 3 or 4 inches long, tapering, straight, purplish, smooth, and leathery, according to Blume.

Genus omninò dubium.

HYSTERIA.

Hysteria. *Reinwardt, Bot. Zeitung.* 1825. *Vol.* 2. *p.* 5. *Endlicher gen. no.* 1546.

Corolla 5 petala: petala exteriora canaliculata, interiora unguiculata. Labellum unguiculatum integrum reflexum. Stylus teres. Stigma sagittatum bifidum. Anthera postica persistens apice dehiscens. Massa pollinis bipartita granularis botryoidea. *Reinwardt.*

1. Hysteria veratrifolia. *Reinwardt. Bot. Zeitung. Vol. II.* 1825. p. 5.

Hab. in *Java.*

Caulescens, terrestris. Spica terminalis.

Note. The total number of Orchidaceous plants belonging to the Tribe Arethuseæ is as follows;

Described 206
Doubtful 12

Total 218

Their geographical arrangement is thus:

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland and New Zealand.	South Sea Islands.	America within the tropics.	South America beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropics.	North Africa.
212. Epipogium	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
213. Ceratopsis	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
214. Gamoplexis	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
215. Gastrodia	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	.	.
216. Macdonaldia	.	.	.	.	.	.	.	.	.	7	.	.	.	.	.	.	.
217. Chiloglottis	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.
218. Pterostylis	.	.	.	.	.	.	.	.	.	28	.	.	.	.	.	.	.
219. Lyperanthus	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.
220. Corysanthes	.	.	.	.	.	.	2	.	.	6	.	.	.	.	.	.	.
221. Microtis	.	.	.	.	.	.	.	.	.	8	.	.	.	.	.	.	.
222. Acianthus	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.
223. Cyrtostylis	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
224. Limodorum	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
225. Chloræa	.	.	.	.	.	.	.	.	.	.	.	.	27	.	.	.	.
226. Bipinnula	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.
227. Asarca	.	.	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.
228. Cleistes	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
229. Codonorchis	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.
230. Haplostellis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.
231. Cephalanthera	3	.	.	1	.	.	.	.	3?	.	.	.	.	.	.	.	.
232. Pogonia	.	.	4	1	3	.	1	.	.	.	.	1	.	.	.	.	.
233. Leptoceras	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.
234. Caladenia	.	.	.	.	.	.	.	.	.	30	.	.	.	.	.	.	.
235. Glossodia	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.
236. Calopogon	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
237. Crybe	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
238. Anthogonium	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
239. Arethusa	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
240. Eriochilus	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.
241. Spiculæa	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
242. Drakæa	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
243. Caleana	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.
244. Cyathoglottis	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
245. Sobralia	.	.	.	.	.	.	.	.	.	.	.	8	.	.	.	.	.
246. Epistephium	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.
247. Vanilla	.	.	.	.	.	.	2	.	.	.	.	6	.	.	.	.	.
248. Cyrtosia	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
249. Erythrorchis	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Hysteria	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Total	5	1	8	5	3	.	9	.	3?	115	.	26	31	.	1	.	.

ORCHIDACEÆ.

Tribe VI. Neotteæ.

Orchideæ, Tribus Neottieæ. *Lindl. Orch. Scel. No.* 7. *Nat. Syst. ed.* 2. *p.* 341. *Endlich. gen. p.* 212.

Pollen pulvereum, aut in lobulos elasticè cohærentes colligatum. Stigma sæpiùs in rostellum fissile productum. Anthera dorsalis, persistens, cum stigmate aut columnæ facie subparallela. Herbæ omnes terrestres, radicibus fasciculatis; nunc casu quodam arboribus innascentes, regiones temperatas et tropicas humidas montanas utriusque hemisphæræ habitantes, circulo arctico ignotæ; quædam aphyllæ, in radices plantarum parasiticæ, rufæ. Folia membranacea, ensiformia v. petiolata, sæpiùs in vaginam caulem circumdantem expansa; rarò dura, plicata, arundinacea. Flores spicati, rarissimè paniculati, sæpiùs glanduloso-pubescentes, in plurimis parvi semiherbacei.

These plants are distinctly separated from Arethuseæ by their dorsal, not opercular anther; but they cannot be distinguished by their pollen, which is either pulverulent, farinaceous, granular, or sectile. In the majority of cases too, the stigma is prolonged into a rostellum which is divisible into two setæ or membranous arms, in consequence of the portion connecting them adhering to the pollen masses and falling away. The parts are very difficult to examine in a dried state, and require the patient observation of botanists who possess the opportunity of studying and drawing them when fresh.

The hard dry plaited form of leaf which occurs in Sobralia among Arethuseæ exists here in Tropidia, Cnemidia, and Chloidea, but I cannot combine those genera into a section by any good character. Thelymitra may be considered to form a transition from the whole order to Iridaceæ.

Neotteæ pass into Arethuseæ more especially from Epipactis to Cephalanthera, and from Prasophyllum to Microtis; into Malaxeæ from Listera to Liparis; and into Ophreæ from Neottia to Platanthera. They naturally separate into the following divisions:

Div. I. Cranichidæ. Columna recta, carnosa, teres. Labellum difforme (posticum) concavum, in columnam incumbens eamque abscondens. Sepala patula v. revoluta. (Rostellum truncatum.)

Div. II. Listeridæ. Columna recta, carnosa, teres. Labellum difforme (anticum) patens, ecalcaratum. Sepala patula aut reflexa.

Div. III. Spiranthidæ. Columna in pedem producta, carnosa, teres. Labellum difforme, (anticum) c. columnâ parallelum, canaliculatum, nunc in calcar v. cuniculum intra sepalorum bases latentem productum. Flores ringentes; nempè sepalis et petalis in 2 labia cohærentibus.

Div. IV. PHYSURIDÆ. Columna recta, carnosa, teres. Labellum difforme (anticum) sæpiùs ventricosum v. calcare ultra sepala producto munitum. Flores sæpiùs ringentes.

Div. V. DIURIDÆ. Columna petaloidea, v. appendicibus petaloideis aucta. Labellum difforme.

Div. VI. THELYMITRIDÆ. Labellum petala et sepala petaloidea, formâ et directione conformia.

ARTIFICIAL ANALYSIS OF THE GENERA.

Division I. CRANICHIDÆ.

Labellum cum petalis columnæ adnatum - - - 250. PONTHIEVA.
Labellum liberum.
  Columna nana.
    Sep. lat. et lab. biauriculatum in saccum connata - 261. PRESCOTTIA.
    Sepala lateralia libera.
      Labellum carnosum, intra basin suam ventricosam columnam includens.
        Perianth. ringens. Pet. unguic. longiora - 251. PTERICHIS.
        Perianth. revolutum. Pet. sepalis conformia
          Clinandrium margine lacerum. Lab. apice appendiculatum - - 252. CRYPTOSTYLIS.
          Clin. margine callosum. Lab. inappend. 253. ZOSTEROSTYLIS.
      Labellum membranaceum concavum
        Perianthium cruciatum - - - 258. TRIPLEURA.
        Perianth. ringens.
          Poll. 2. Clinandr. nudum. Col. solida. Anth. mutica. - - - } 256. ALTENSTEINIA.
          Poll. 4. Clinandr. alatum. Col. 2-partita. Anth rostrata. - - - } 257. CRANICHIS.
      Labellum sepalis conforme - - - 259. CHLOROSA.
  Columna elongata.
    Clinandrium profundissimum - - - 260. ROPHOSTEMON.
    Clinandrium planum.
      Sepala et petala libera - - - 254. GOMPHICHIS.
      Sepala et petala in tubum connata - - 255. STENOPTERA.

Division II. LISTERIDÆ.

Labellum medio constrictum, basi calceiforme. - - 265. EPIPACTIS.
Labellum continuum,
    in barbam solutum - - - - - 264. CALOCHILUS.
    læve.
      Caulis aphyllus, vaginatus - - - 263. NEOTTIA.
      Caulis diphyllus, nudus - - - - 262. LISTERA.

Division III. SPIRANTHIDÆ.

Sepala lateralia connata. Labellum calcaratum - - 266. CNEMIDIA.
Sepala lateralia discreta. Lab. ecalcaratum,
  callis duobus. - - - - - - - 267. SPIRANTHES.
  callis nullis.
    Rostellum corneum subulatum. Lab. acuminatum - 268. STENORHYNCHUS.
    Rostellum membranaceum. Lab. apice dilatatum.
      Columna elongata; stigmate triangulari indiviso. Sepal. lat. incurva - - - - } 269. SAUROGLOSSUM.
      Columna nana; stigmate fissili. Sepal. lat. recta 270. PELEXIA.

Division IV. Physuridæ.

Pollinia 8. - - - 271. Plexaure.
Pollinia 2-4.

* *Labellum basi convexum, aut planum.*

Labellum columnæ adnatum,
indivisum, sepalis brevius - - - - 273. Zeuxine.
fissum, sepalis longius - - - - - 274. Monochilus.
Labellum liberum.
Sepala omnia connata - - - - - 275. Cheirostylis.
Sepala libera.
Labellum lamellatum maximum - - - 285. Ulantha.
Labellum læve v. pilosum - - - - 272. Chloidia.

* * *Labellum ventricosum.*

Sepala petaloidea, lateralia patentia v. reflexa
Per. reflexum. Col. recta c. labello connata - - 276. Myoda.
Per. connivens. Col. torta, libera - - - - 277. Hæmaria.
Sepala herbacea, lateralia labello supposita.
Columna recta, nuda.
Lab. nanum. carnosum. ore constricto apiculato. - 278. Hylophila.
Lab. ventricosum, in limb. plan. simpl. productum,
basi bicallosum - - - - - 279. Ætheria.
basi ecallosum.
Anth. obtusa. Stigm. rotund. v. emarg. - 280. Goodyera.
Anth. in acumen longum producta.
Stigma obtusum, indivisum - - 281. Eucosia.
Stigma in brachia duo setacea fissile - 282. Georchis.
Lab. ventricosum, bilamellatum, in limbum parvum abruptè expansum - - - - - 284. Tropidia.
Columna obliquè torta, basi appendice bilamellatâ instructa 283. Macodes.

* * * *Labellum calcaratum.*

Labellum fissum, stigmate bituberculato - - - 286. Anæctochilus.
Labellum integrum.
Anthera carnosa, turbinata. Stigma fornicatum - - 287. Galera.
Anthera membranacea. Stigma planum.
Labellum nudum, omnino liberum
Petala libera. Columna nuda - - - 288. Physurus.
Petala columnæ adnata. Col. basi appendice cyathiformi aucta - - - - 289. Baskervilla.
Labellum lamellatum, c. columna connatum - - 290. Herpysma.

Division V. Diuridæ.

Petala unguiculata - - - - - - - 291. Diuris.
Petala sessilia.
Sepala lateralia filiformia elongata - - - 292. Orthoceras.
Sepala subæqualia.
Columna utrinque aurita - - - - 293. Prasophyllum.
Columna nuda.
Petala libera. Labellum planum - - 294. Burnettia.
Petala columnæ adnata. Labellum basi cucullatum 295. Genoplesium.

Division VI. Thelymitridæ.

Labellum nudum - - - - - - - 296. Thelymitra.
Labellum basi in barbam solutum - - - - 297. Epiblema.

Division I. CRANICHIDÆ.

CCL. PONTHIEVA.

Ponthieva. *Brown. H. K.* 5. 199. *Endlicher genera no.* 1573.

Sepala patula, libera, æqualia; dorsali petalis apposito. Petala sepalis conformia, cum labello columnæ medio adnata. Labellum posticum, unguiculatum, ovatum, concavum, patens. Columna 2-loba; dimidiâ stigmatiferâ rostratâ; (stigmate in *P. glandulosâ*, et clinandrio, utrisque membranâ marginatis, ideoque columna quasi tetraptera). Anthera dorsalis, linearis, pedicellata, bilocularis; valvulis membranaceis. Pollinia 2, biloba.———Herbæ terrestres, Americanæ, radicibus fasciculatis. Folia radicalia, lata, nervosa. Scapus terminalis, vaginatus, multiflorus, glanduloso-pubescens.

1. PONTHIEVA glandulosa. *R. Br. in Hort. Kew.* 5. 200.

P. foliis cuneato-oblongis in petiolum brevem angustatis, sepalis lateralibus planis dorsali cum petalis in laminam rhomboideam tridentatam laxè agglutinatis.

Ophrys pubera. *Michaux fl. Bor. Am.* 2. *p.* 158.
Epipactis pubescens. *Pursh. fl. Am.. Sept.* 2. 591.
Neottia glandulosa. *Bot. Mag. t.* 842.
Cranichis multiflora. *Nutt. gen.* 2. 191. *Elliot Carolina*, 2. 493.
Listera pubescens. *Elliot Carol.* 2. 494.
Arethusa racemosa. *Walt. Carol.* 222.

Hab. in *Indiâ occidentali*; in Mexico ad San Cornelio, *Hartweg*, inter gramina, Januario; necnon in *Carolina* Elliot et prope arcem King ad sinum Tampa *Floridæ occidentalis, Torrey.* (*hab. s. sp.*)

Stem about a foot high. Flowers bright green, with the edge of the petals white.

2. PONTHIEVA petiolata. *Lindl. in Bot. Reg. t.* 760. *Bot. Cab. t.* 1190.

P. foliis ovato-oblongis margine crispis petiolis brevioribus, sepalis lateralibus margine revolutis dorsali cum petalis in laminam oblongam indivisam agglutinatis.

Hab. in insulâ *St. Vincentii, Macrae* (*v. v. c.*).

Stem a foot and a half high. Leaves each 5-7-nerved. Flowers yellowish cinnamon-coloured.

CCLI. PTERICHIS.

Flores ringentes. Sepala ovata, herbacea; lateralia postica, libera, erecta, basi æqualia, dorsale anticum, pendulum. Petala unguiculata, dilatata, patentia. Labellum posticum, coriaceum, galeatum, acuminatum, columnam abscondens, intra marginem verrucosum. Columna nana; stigmatis semicircularis bilabiati labio exteriore brevi rotundato, interiore acuto. Anthera deflexa, in clinandrio cucullato, altè excavato, marginibus membranaceis inflexis, abdita.———Herba terrestris, Peruviana, Sarcoglottidis minoris habitu.

This singular genus has the habit of Spiranthidæ, but the structure of Cranichidæ. It approaches Cryptostylis in the structure of the flowers, especially in the column, but the remainder of the flower is quite different.

1. PTERICHIS galeata.

Hab. in *Peruvia*; *Mathews*, 1882 (*hab. s. sp.*)

Folia ignota. Scapus 1½-2 pedes altus, tomentosus, pennæ anserinæ crassitudine, squamis vaginantibus, distantibus, appressis, verosimiliter herbaceis vestitus. Spica flexuosa, 4-8-flora, rara. Bracteæ ovatæ, acutæ, glanduloso-tomentosæ, ovario appressæ eique subæquales. Sepala densè glanduloso-tomentosa; lateralia 4 lin. longa, ovata, acuminata, obtusa, coriacea; dorsale lanceolatum obtusum. Petala unguiculata, Diuridis ad instar torta, sicca 4 lin. longa, lanceolata, glabra. Labellum coriaceum, intùs puberulum, subrotundo-ovatum, acuminatum, basi sagittatum, secus marginem interiùs verrucarum serie ornatum, in galeæ speciem compressum. Columna minima.

CCLII. CRYPTOSTYLIS.

Cryptostylis. *Brown prodr.* 1. 317. *Endlicher genera no.* 1579.

Sepala lineari-lanceolata, acuminata, libera, patula. Petala similia sed minora. Labellum posticum, sessile, indivisum, carnosum, intra basin ventricosam columnam includens, sub apice appendiculatam. Columna nana, indivisa; stigmate ovato; clinandrio margine membranaceo lacero. Anthera stigmati parallela, obtusa, bilocularis. Pollinia 4, pulverea.——Herbæ terrestres asiaticæ. (Bulbi fasciculati. Folia radicalia, plana, petiolata, pauca. Flores scapum vaginatum terminantes, spicati, sordidè rufi, inodori. *R. Brown.*)

1. CRYPTOSTYLIS longifolia. *Brown. prodr.* 317. *Bauer's Illustrations, genera t.* 17 et 18. *Endlich. Iconograph. c. ic.*

C. floribus porrectis, labello convexo marginibus recurvis: axi a basi striis 2 elevatis desinentibus in callum ovatum apice approximatum, foliis oblongis, spicâ elongatâ.

Malaxis subulata. *Lab. nov. Holl. t.* 212.

Hab. in *Australia*; prope Portum Jackson, *R. Brown*; in *Tasmannia*, in uliginosis arenaceis, Februario et Marte florens, *Gunn*, 358, (*v. v. c. et hab. s. sp.*)

Of this dusky-flowered plant the stem is from 1 to 1½ foot high, and the leaves from 4 to 5 inches long without their petiole. Mr. Gunn remarks that the base of the scape and the petioles of the leaves are very brittle.

2. CRYPTOSTYLIS ovata. *R. Brown, l. c.*

C. floribus porrectis, labello convexo marginibus recurvis: axi intùs infra medium lævi; juxta apicem processu didymo elongato obtuso pubescente calloso, foliis oblongo-ovatis petiolo suo longioribus, spicâ coarctatâ.

Hab. *in Australia australi,* Brown, (*v. ic. comm. cel. Endlicher.*)

3. Cryptostylis erecta. *R. Brown, l. c.*

C. "floribus erectis, labello suprà concavo axeos carinâ suprà membranaceâ elevatiore."

Hab. in *Australia*, prope Portum Jackson, R. Brown.

CCLIII. ZOSTEROSTYLIS.

Zosterostylis. *Blume Bijdr.* 418.

Sepala æqualia, libera, acuminata, patula. Petala conformia minora. Labellum liberum, canaliculatum, sessile, posticum, inappendiculatum, columnam intra basin excavatam fovens. Columna brevissima, crassa; stigmate emarginato; clinandrio .... Anthera pedicellata, a stigmate ferè disjuncta, rostrata, bilocularis: loculis discretis. Pollinia 2, biloba. ——Herbæ terrestres, radicibus fasciculatis. Folia petiolata, lata, nervosa. Scapus radicalis, vaginatus. Flores sessiles, distantes; bracteis conspicuis.

I formerly regarded this genus as the same with Cryptostylis, from which, however, its anther-bed and labellum seem to distinguish it sufficiently. Blume describes his plant as having a "Gynostemium breve, crassum, apice emarginatum, postice *cavitate antheriferâ amplissimâ ad marginem callosâ* instructum." If this structure is analogous to the membranous lacerated border of the anther-bed in Cryptostylis, the distinctions between the genera will be diminished; but I cannot find such a formation in the only flower of *Z. zeylanica* which I have been able to examine, and I do not at all understand the figure given in Blume's *Tabellen*.

1. Zosterostylis Arachnites. *Blume, l. c. tabellen.* 32.

Z. labello lineari-oblongo glabro, sepalis petalisque setaceis.

Hab. in *Java*; in sylvis opacis montium Salak et Seribu, *Blume*.

Pedunculus infernè vaginatus, tetragonus, *Blume*.

2. Zosterostylis zeylanica.

Z. labello ovato acuminato intùs tomentoso, sepalis lineari-lanceolatis.

Hab. in *Zeylona*; in humidis obumbratis sylvarum Peradeniæ, Julio florens, *Macrae*, (*hab. s. sp. et ic. pict.*)

Folia ovalia, 4-5 pollicaria, trinervia, atroviridia, petiolis brevioribus purpureis. Scapus purpureus, radicalis, pedalis, bivaginatus. Spica subpedalis, laxa; bracteis lanceolatis acuminatis ovario longioribus. Flores herbacei. Labellum marginibus revolutum, intùs purpureum et punctatum.

This very curious plant deserves the attentive examination of some naturalist who can study it in a fresh state. A single flower is all I have had an opportunity of dissecting.

CCLIV. GOMPHICHIS.

Sepala et petala subæqualia, patula, omninò libera. Labellum posticum,

concavum, ecallosum, in columnam incumbens; ungue suo basi breviter connato sepalorum lateralium adnato. Columna clavata, (villosa,) labelli ferè longitudine; stigmate subrotundo, tranverso; clinandrio utrinque membranâ lacerâ marginato. Anthera ovata, obtusa; Pollinia 2, biloba.———Herba Peruviana Goodyeræ facie.

1. Gomphichis Goodyeroides.

Hab, in Peruvia; provincia Chachapoyas, *Mathews*, (*exam. s. sp. in hb. Hooker.*)

Herba robusta, bipedalis et ultra. Folia coriacea, erecta, lanceolata, in petiolum canaliculatum angustata. Vaginæ caulis inferiores inflatæ, foliaceæ. Scapus apice tomentosus. Spica densissima, oblonga, tomentosa. Bracteæ oblongo-lanceolatæ, tomentosæ, florum longitudine. Sepala oblonga, tomentosa. Labellum cordatum, ovatum, complicatum sub apice constrictum, apice concavum, intùs tomentosum.

CCLV. STENOPTERA.

Stenoptera. *Presl. Reliq. Hænk. v. I. p.* 95.

Flores ringentes, laciniis omnibus in tubo angusto connatis. Sepala lateralia postica, erecta, basi æqualia, dorsale anticum cæteris brevius, pendulum, aut patens. Petala linearia patentissima. Labellum dorsale, fornicatum, unguiculatum, indivisum, columnam abscondens. Columna teres, (tomentosa,) elongata, antrorsùm arcuata; rostello acuto glabro. Anthera antica, rostello supposita, linearis, bilocularis, obtusa; clinandrio marginato.———Herbæ terrestres, Americæ calidioris. Folia radicalia Orchidis. Flores spicati, herbacei vel colorati.

This remarkable genus is essentially characterized by its sepals and petals being combined into a long tube, its dorsal fornicate lip, its long narrow spreading petals, and its long column which follows the curve of the lip that presses on it, in consequence of which the anther is forced into the front of the column. Its long narrow flexuose petals, and the adhesion of the parts of the flower into a neck, divide it from Gomphichis.

1. Stenoptera peruviana. *Presl. l. c. t.* 14.

S. foliis oblongo-lanceolatis acutis planis glabris, scapo pubescente squamis coriaceis obtusiusculis distantibus, spicâ tenui elongatâ tomentosâ, bracteis lanceolatis acuminatis collo floris brevioribus, sepalis herbaceis tomentosis apice recurvis lateralibus oblongis antico lineari, petalis linearibus patentibus revolutis, labelli laminâ coriaceâ oblongâ emarginatâ, columnâ pubescente.

Hab. in *Peruviâ*; in montanis ad Huanoco, Hænke; prov. Chachapoyas; *Mathews*, (*exam. s. sp. in hb. Hooker.*)

Flowers small and apparently green; all the parts very tough and thick.

2. Stenoptera acuta.

S. foliis radicalibus lanceolatis acutissimis in petiolum angustatis (verosimiliter scapo æqualibus v. longioribus), vaginis scapi acuminatis sub-

imbricatis glabris inferioribus foliaceis, spicâ densâ elongatâ multiflorâ, bracteis lanceolatis acuminatis ovarii longitudine, collo floris pubescentis abbreviato, sepalis lateralibus lanceolatis acutis falcatis antico ovato breviore obtusiusculo, petalis lineari-lanceolatis acutis ciliatis, labelli laminâ oblongâ acutâ serratâ crispâ, columnâ pubescente.

Hab. in *Brasilia;* in nemoribus ad Ega, et Nogueira, prov. Flum. nigr. *Martius,* (*exam. s. sp. in hb. Mart.*)

Leaves a foot long, and an inch and half broad in the widest part. Whole scape, including the spike, which is 6 or 7 inches long, but little higher than the leaves, in the specimen before me. Flowers about the size of *S. peruviana.*

3. Stenoptera cardinalis.

S. foliis hysteranthiis, glaberrima, squamis scapi superioribus membranaceis acuminatis vaginantibus, spicâ oblongâ multiflorâ, bracteis ovatis acuminatis ovarii longitudine, collo floris elongato, sepalis lateralibus lanceolatis ovario æqualibus antico petalisque patentissimis spiralibus lineari, labelli laminâ lanceolatâ, columnâ tomentosâ.

Hab. in *Peruviâ;* Limæ, *Cuming,* 977.; propè Obrajillo secus fluminis ripas, *Mathews,* 678, (*hab. s. sp.*)

A beautiful plant, with a stem as thick as a goose-quill, and flowers of the colour of Lobelia cardinalis, and as large, arranged in a spike from 4 to 5 inches long. Mr. Mathews remarks that that it had no leaves in the month of July, when he gathered it in flower at the Quebrada of Obrajillo.

The following plants are perhaps also of this genus :—

4. *Cranichis tubularis* (Llave orch. mex. p. 6). Hab. in *Mexico* juxta prædium vulgo del Rincon, prope Vallisoletum, florens Maio et Junio; vernac. Acatlzauhtli.

"Planta humilis terrestris. Radix, tuberculis crassis, fasciculatis, præmorsis. Folia radicalia . . . . . Caulis cylindraceus, squalidus, vaginatus squamulis foliaceo-membranaceis, acutis. Flores alterni, paululum incurvati, bracteolis pallescentibus cincti. Perigonium tubulatum, pallido-carneum, hians: tubus incurvus, laciniis tribus externis subæqualibus, duabus internis angustioribus acutis, omnibus longitudine lineatis, nervosis, extùs pubescentibus. Labellum ovatum, amplum, concolor, pendulum, limbo emarginato. Genitalia basi laciniarum intimè adnata."

5. *Cranichis speciosa.* (Llave l. c. p. 5.) Hab. in *Mexico,* cum præcedente; vernac. Atzauhtli.

"Radix fasciculata, tuberculis oblongis, carnosis, subhyalinis, fœtidis. Folium unicum radicale lanceolatum, glaucum, caulem amplectens. Caulis teres, squalidus, membranis laceratis juxta basim, filamentisque rigidis tectus. Squamulæ caulinæ membranaceæ, vaginantes, acutæ. Flores alterni, incurvati, bracteis lineatis præcincti. Perigonium infundibuliforme, ringens, pallido-carneum, recurvum, laciniis duabus internis brevioribus, omnibus lanceolatis basi conniventibus, ad apicem reflexis, lineis longitudinalibus rubris et ochreis alternatim dispositis variegatis.

Labellum amplificatum, venosum, album, venis virescentibus ramificatum, limbo undulato."

CCLVI. ALTENSTEINIA.

Altensteinia. *Humb. Bonpl. et Kunth. Nov. gen. et sp.* 1. *p.* 333.

Sepala et petala patula aut revoluta; his minoribus conformibus. Labellum posticum, basi concavum, liberum, membranaceum, in columnam incumbens. Columna nana, indivisa, apice antheram sessilem rotundatam dorsalem gerens; stigmate emarginato; clinandrio immarginato. Pollinia 2, granulosa, caudiculis nullis.——[Plantæ terrestres, Americæ equatorialis, tuberosæ. Caulis foliatus. Flores densè spicati, sessiles. *Kunth.*]

This genus differs but little from *Cranichis*. Its principal characteristics are two pollen masses, and a pointless anther, which is not seated upon a filament constituting one half of the column, but is sessile upon the apex of an undivided truly gynandrous centre.

1. Altensteinia fimbriata. *Humb. Bonpl. et Kunth. l. c. t.* 72.

A. "spicâ elongatâ cylindraceâ, labello subrotundo-ovato fimbriato, gynostemio apice denticulato."

Hab. in *Quito*, in umbrosis humidis ad fluvium Guallabamba, alt. 1030 hex., florens Junio; Humb. et Bonpl.

2. Altensteinia pilifera. *H. B. K. l. c. t.* 73.

A. "spicâ ovato-oblongâ, labello oblongo acuminato, gynostemio apice pilifero."

Hab. in *Quito*; in locis muscosis nemorosis inter pagum Cumbe et los Baños de Cuenca, alt. 1380 hex. florens Julio; Humb. et Bonpl.

3. Altensteinia paleacea. *Kunth. Synops.* 1. 325.

A. vaginis caulis bracteisque ramentaceis membranaceis, spicâ cylindraceâ densissimâ, sepalis petalisque ovatis obtusis recurvis, labello obliquè inflexo calceiformi fimbriato.

Ophrys paleacea. *H. B. K. nov. gen. et sp.* 1. 334.

Hab. in *Quito*; in montosis prope pagum Lloa Chiquito ad radicem montis ignivomi Pichincha, alt. 1662 hex. florens Martio, Humb.; in *Peruvia* juxta Obrajillam *Mathews*, alt. 1170 hex. *Crukshanks.* (*hab. s. sp.*)

A singular plant looking like Spiranthes ramentacea. I have seen no leaves. The stems are two feet high, covered with loose membranous rugged sheaths, and terminated by very small flowers in a close cylindrical head about 3 inches long. The concave or rather slipper-shaped lip is very unlike that of the other species of this little known genus.

CCLVII. CRANICHIS.

Cranichis. *Swartz. act. holm.* 1800. *p.* 226. *t.* 3. *f. k.* *Fl. Ind. occ.* 3. 1418. *Endlicher Genera, no.* 1574.

Sepala patentia, libera, lateralia majora in columnam incumbentia. Petala minora, conformia, libera. Labellum posticum, membranaceum, basi exauriculatum, concavum, in columnam pronum. Columna bipartita; laciniâ anticâ apice stigmatiferâ integrâ v. emarginatâ, posticè membranaceâ; dorsali antheriferâ. Anthera bilocularis, connectivo rostrato. Pollinia 4. ——— Herbæ terrestres, Americæ calidioris, radicibus fasciculatis. Folia radicalia, lata, membranacea. Scapus terminalis, vaginatus. Flores spicati, nervosi, herbacei.

This is the least gynandrous genus yet known among Orchidaceæ. Possibly *Ophrys pubescens and parviflora* of *Presl. Reliq. Hænkeanæ,* may be other species.

1. Cranichis aphylla. *Swartz. Prodr.* 129. *Fl. Ind. Occ.* 1421. *t.* 29. *f.* 1.

C. aphylla, scapo filiformi pubescente vaginulis membranaceis, spicâ densâ, bracteis minutis ovatis, sepalis conniventibus, labello fornicato sepalis majore et coloratiore.

Hab. in *Jamaica*; in sylvis montium altissimorum Parœciæ Clarendon, locis humidis tenebrosis, inter quisquilias, Autumno florens, Swartz.

Scapus semipedalis albescens. Spica sesqui-s. biuncialis. Flores pallidè albidi; ex Swartzio.

2. Cranichis diphylla. *Swartz. Prodr.* 120. *Fl. Ind. Occ.* 3. 1423.

C. foliis 1-2 petiolatis cordatis acuminatis nitidis, scapo filiformi vaginulis paucis minutis, spicâ parvâ, sepalis persistentibus, petalis tenerioribus deciduis, labello posticè carinato sepalis minore.

Hab. in *Jamaica australi*; inter muscos in uliginosis montium altissimorum, Februario florens, Swartz.

Folia venosa, nitida, lætè virentia. Scapus semipedalis, glaber. Spica parva, floribus numerosis sparsis minutis albidis. Sepala pallidè viridia, petala alba; ex Swartzio.

3. Cranichis pauciflora. *Swartz. Fl. Ind. occ.* 3. 1431.

C. foliis rosulatis oblongis sessilibus, scapo apice pubescente, spicâ laxâ, bracteis brevibus cucullatis ovarioque pubescentibus, sepalis patulis oblongis acutis, petalis linearibus obtusis æquilongis, labello ventricoso acuminato membranaceo.

Hab. in *Jamaica australi,* in montium umbrosis, Swartz, *Distin.* (*exam. s. sp. in hb. Hooker.*)

The flowers of this species are larger than most of the others. Swartz seems to have seen a small specimen only; one of those in Sir William Hooker's Herbarium has 18 flowers, and a spike five inches long; so that the trivial name is by no means applicable. The long pointed membranous lip is very characteristic.

4. CRANICHIS muscosa. *Swartz. Prodr.* 120. *fl. ind. occ.* 3. 1429. *t.* 29. *f.* 3.

C. foliis petiolatis ovato-oblongis nervosis, vaginarum laminâ subrotundo-oblongâ foliaceâ, spicâ laxiusculâ, ovariis elongatis acuminatis, sepalis petalisque patentibus, labello oblongo concavo venis intùs tuberculatis.

Hab. in *Jamaica,* in sylvis umbrosis subhumidis montium, Swartz.; nec non in *Dominica, Henslow, et Sancto Vincentio, Guilding.* (*hab. s. sp.*)

This plant varies much in its size, and in that of the flowers. I have seen specimens from 6 inches to two feet in height.

5. CRANICHIS ovata. *Wikstr. in Linnæa v.* 5. *p.* 90.

C. " radicibus . . . ., caule paucifolio, fol. radicalibus petiolatis ovatis acutis obsoletè nervosis, caulinis subsessilibus, spica pauciflora, bracteis ovato-lanceolatis, labello . . ., capsulis subellipticis."

Hab. in *Guadaloupe,* Wikstrom.

This seems to be a small variety of *C. muscosa,* of which there are many. That species is said, however, to differ by the following character: " radicibus fasciculatis filiformibus tomentosis, caule folioso, foliis radicalibus petiolatis ovalibus nervosis reticulato-venosis, spica multiflora, labello intùs punctato, capsulis ovalibus."

6. CRANICHIS tubulosa.

C. foliis . . . . ., caule glabro distanter vaginato, spicâ elongatâ imbricatâ, bracteis lanceolatis (glaucis?) ovario longioribus, sepalis petalisque patentibus basi in tubo brevi connatis, labello ovato medio carnoso, stigmate emarginato.

Hab. in *Mexico, Karwinski* (*hab. s. sp. comm. cel. Bateman.*)

Of this plant I have seen no leaves. The portion in my herbarium consists of part of a scape about a foot long, terminated by a close spike 5½ inches long. The union of the sepals and petals into a short tube is not known elsewhere in the genus Cranichis, and the deeply emarginate stigma is peculiar; but the value of these marks is at present uncertain.

In the Royal Herbarium of Munich there is another specimen.

7. CRANICHIS ciliata. *Kunth. synops.* 1. 324.

C. foliis petiolatis ovato-ellipticis, scapo pubescenti, spicâ ovatâ glabrâ laxiusculâ, ovariis linearibus bracteis longioribus, floribus patulis, petalis ciliatis, labello obovato-subrotundo trinervi venis validis abbreviatis rectangulis picto.

Ophrys ciliata. *H. B. K. nov. gen. et. sp. pl.* 1. *t.* 74.

Hab. in declivitate nobilissimi montis Avilæ vel Silla de Caracas, prope El Pexual, alt. 1020 hex. Januario florens, Humboldt et Bonpland. (*hab. s. sp.*)

8. CRANICHIS foliosa.

C. foliis radicalibus obovato-lanceolatis petiolis et scapo diphyllo longioribus, spicâ laxâ multiflorâ glabrâ, sepalis petalisque subæqualibus patulis, labello cymbæformi basi angustato intùs verrucoso.

Ponthieva multiflora. *Poppig. nov. gen.* 2. 16. *t.* 123.

Hab. in *Peruviæ orientalis* arboribus vetustis rara, Cerro de S. Cristobal in viciniis prædii Cuchero, florens Februario, Poppig.

Herba 1-2 pedes alta. Flores parvi albi inodori; ex Poppig.

CCLVIII. TRIPLEURA.

Tripleura. *Lindl. in Bot. Reg. sub.* 1618. *Endlich. gen. no.* 1572.

Perianthium explanatum, cruciatum, quasi tetraphyllum, sepalo supremo lato petalis agglutinato, lateralibus linearibus patentissimis. Labellum posticum, liberum, concavum. Columna teres, brevissima, antice processibus 2 membranaceis (stam. steril.) corniformibus instructa. Anthera subrotunda, apiculata, terminalis.——Herba Indiæ orientalis, terrestris, glabra, caulescens. Folia linearia, summa tantum quasi fasciculata, virentia. Scapi squamæ membranaceæ, haud vaginatæ. Spica densa parviflora.

1. Tripleura pallida. *Lindl. in Wall. Cat. no.* 7391.

Hab. in *Indiæ orientalis* provinciis temperatis; Sylhet. *Wallich*, (*hab. s. sp.*)

Stem very slender, apparently growing among decayed leaves, erect, with the lower leaves, for some inches, dead, withered and distant, while the upper are scarcely separated by any visible internodes, and have a clustered appearance; they are linear, acute, revolute at the edges, and about 2 inches long. Scape smooth, terminal, with about 4 membranous acuminate scales which do not sheath at the base. Flowers very small, quite smooth, white, in a dense cylindrical or oblong spike, about $1\frac{1}{2}$ or 2 inches long.

CCLIX. CHLOROSA.

Chlorosa. *Blume Bijdr.* 420. *tabell.* xxxi.

Perianthium erecto-patens herbaceum, sepalis petalis labelloque liberis conformibus. Labellum columnam amplectens. Columna nana, crassa. Anthera bilocularis. Pollinia farinosa.——Herbæ epiphytæ, rhizomatosæ. Folia radicalia, petiolata, nervosa, membranacea, inæquilatera. Scapus radicalis, basi vaginatus. Flores racemosi, virides. Ex Blume.

1. Chlorosa latifolia. *Blume, l. c. ic.*

C. "foliis subsolitariis ovatis vel ovato-oblongis, scapo paucifloro laxè spicato."

Hab. in *Java*; in vicinitate cataractarum calidarum montis ignivomi Gede, et in altioribus Salak; Blume.

2. Chlorosa gracilis. *Blume, l. c.*

C. "foliis binis ovato-oblongis undulatis, scapo ad apicem densè spicato."

Hab. in *Java*; in cacumine montis Burangrang, Blume.

CCLX. ROPHOSTEMON.

Rophostemon. *Blume fl. Jav. præf. VI.*——Cordyla. *Id. Bijdr.* 416.

Perianthium connivens. Sepala carinata. Petala minora. Labellum ecalcaratum, concavum, erectum; limbus sublobatus. Columna clavata, apice cavitate antheriferâ profundissimâ instructa. Anthera carnosa, bilocularis, denti dorsali columnæ affixa. Pollinia duo, subbiloba, granulosa, margini stigmatis insidentia.——Plantæ terrestres, acaules,

tuberosæ. Folium radicale, petiolatum, ovato-cordatum, nervosum, post æstivationem vernans (???). Pedunculus radicalis, basi vaginatus, nutans. Flores remotè spicati, pedicellati, cernui; Blume.

1. Rophostemon concolor.

R. "foliis concoloribus glabris, scapo multifloro." *Blume, l. c. sub* Cordyla.

Hab. in *Javæ* umbrosis montis Salak, florens Octobri, Blume.

2. Rophostemon discolor.

R. "foliis discoloribus supra et in nervis infra muricatis, scapo subbifloro." *Blume, l. c. sub* Cordyla.

Hab. in *Javæ* sylvis humidis montis Salak, florens Octobri, Novembri; Blume.

CCLXI. PRESCOTTIA.

Prescottia. *Lindley in Hooker Exotic. flora*, 115. *Endlicher Genera. no.* 1575.—— Decaisnia *A. Brongniart in Duperrey*, 192. *t.* 39. *Endlicher Genera, no.* 1587.

Sepala reflexa aut patula; lateralia cum labello in saccum connata. Petala minora. Labellum posticum, carnosum, cucullatum, integerrimum, in columnam incumbens, basi utrinque auriculatum. Columna nana; clinandrio nunc marginato v. auriculato; rostello obtuso. Anthera rotundata, loculis completis sejunctis; connectivo carnoso vix producto. Pollinia 2, biloba, farinacea.———Herbæ terrestres, radicibus fasciculatis. Folia chartacea, nervosa, succulenta, sæpius petiolata. Scapus terminalis, vaginatus. Spica densa cylindracea. Flores herbacei.

1. Prescottia plantaginea. *Lindley in Hooker exotic flora, t.* 115.

P. foliis erectis lanceolato-oblongis in petiolum laminâ breviorem sensim angustatis, spicâ strictâ densâ cylindraceâ, bracteis ovarii longitudine, labello oblongo emarginato.

Hab. in *Brazilia, Forbes, Gardner,* no. 121, (*v. v. c. et h. s. sp.*)

2. Prescottia phleoides.

P. foliis oblongo-lanceolatis erectis in petiolum laminâ breviorem sensim angustatis, spicâ strictâ densissimâ ovali, bracteis florum longitudine, labello ovato acuto.

Hab. in *Brasilia*; in campis ad Contentas, prov. Min. Ger. *Martius*, (*exam. s. sp. in hb. Mart.*)

Parva species, vix palmaris.

3. Prescottia lancifolia.

P. foliis erectis lanceolatis acutissimis in petiolum angustatis scapo æqualibus, vaginis bracteisque setaceo-acuminatis, spicâ cernuâ imbricatâ, labello hemisphærico.

Hab. in *Braziliâ, Gardner,* 681; prope Ilha grande inter humum, Descourtilz, (*hab. s. sp.*)

About a span high. Flowers white, scentless, in a long conical nodding spike.

4. Prescottia colorans. *Lindley in Bot. Reg. t.* 1915.

P. folio solitario ovato-oblongo acuminato basi cucullato petioli longitudine, spicâ densâ longissimâ erectâ, petalis subulatis ascendentibus.

Hab. in *Brasilia, Loddiges, (v. v. c.)*

Scapus bipedalis, glauco-purpurascens.

5. Prescottia petiolaris. *Lindl. l. c.*

P. foliis latis ovali-lanceolatis acuminatis petiolo longissimo brevioribus, spicâ densissimâ elongatâ multiflorâ, petalis sepalisque revolutis.

Hab. in *Peruvia, Mathews,* 1875, (*exam. s. sp. in hb. Hooker.*)

A very large species. The leaves alone are nearly 18 inches long, including the petiole, which is more than twice as long as the blade. The spike in Sir W. Hooker's herbarium is more than a foot long.

6. Prescottia stachyodes. *Lindl. l. c.*

P. foliis oblongis acutis basi cucullatis petiolo æqualibus, spicâ imbricatâ basi rariflorâ, petalis sepalisque revolutis, labello conico auriculis elongatis, bracteis ovarii longitudine.

Cranichis stachyodes. *Swartz. fl. ind. occ.* 3. 1427. *t.* 29. *f.* 4.

Hab. in *Antillis;* in locis lapidosis muscis obtectis, montium cæruleorum Jamaicæ, Swartz; Tortola, *Schomburgk,* (*hab. s. sp. comm. cel. Schomburgk.*)

Scapus sæpe bipedalis.

7. Prescottia oligantha.

P. foliis petiolatis ovatis v. ovato-lanceolatis acuminatis luridis, scapo filiformi, vaginulis minutis acutis, spicâ filiformi, floribus numerosis omnium minutissimis approximatis, sepalis conniventibus, labelli galeati obtusissimi auriculis elongatis.

Cranichis oligantha. *Swartz. prodr.* 120. *fl. ind. occ.* 3. 1425. *t.* 29. *f.* 2.

Hab. in *Jamaica;* inter dejecta arborum vegetabiliumqe in montibus summis, Februario florens, Swartz.

Scapus semipedalis. Flores albido-rubri, ex Swartzio.

8. Prescottia leptostachya. *Lindl. l. c.*

P. foliis oblongis acutis petiolis suis duplò longiore, spicâ tenui rariflorâ petalis sepalisque revolutis, labello oblongo emarginato basi valdè gibbo, bracteis ovario multò brevioribus.

Hab. in *Brasilia;* in fruticetis sabulosis ad Bahiam, *Salzmann,* (*hab. s. sp.*)

A slender-spiked plant very near *P. stachyodes,* from which its short-stalked leaves and minute bracts distinguish it.

9. Prescottia tenuis.

P. foliis rosulatis ascendentibus ovalibus acutis, spicâ imbricatâ basi rariflorâ, sepalis lateralibus erectis, petalis sepaloque dorsali ovato-triangularibus subæqualibus reflexis, labello subrotundo mucronato, bracteis ovarii longitudine.

Hab. in *Peruvia, Mathews,* 1862, (*exam. s. sp. in hb. Hooker.*)

A small slender species about 9 inches high. The spike thin, and less than 1½ inch long.

10. Prescottia micrantha. *Lindl. l. c.*

P. foliis rosulatis ovalibus 3-nerviis acutis, spicâ gracili imbricatâ, sepalis revolutis, petalis linearibus obtusis, labello subrotundo mucronato cum sepalis lateralibus in gibberem connato, bracteis ovario subæqualibus.

Hab. in *Brasiliâ;* Sierra d'Estrella, *Grisebach,* Trancoso, *Pr. Max. Wiedensis,* (*hab. s. sp.*)

Flowers about the size of the last, which it much resembles, except that its lower flowers are but little removed from the others.

11. Prescottia densiflora. *Lindl. in ann. nat. hist.* vol. vi.

P. foliis rosulatis oblongis obtusis multinerviis, vaginis scapi patulis, spicâ densissimâ cylindraceâ basi rariore, sepalis petalisque revolutis, labello subrotundo acuto cum sepalis lateralibus in gibberem connato, bracteis ovario longioribus.

Decaisnea densiflora. *Ad. Brongn. in Duperrey,* 192. *t.* 39.

Hab. in *Brasiliâ;* insula Stæ. Catharinæ, (*hab. s. sp. com. cel. A. Brongniart.*)

Division II. LISTERIDÆ.

CCLXII. LISTERA.

Listera *R. Brown in Hort. Kew.* 5. 201. *Nees jun. gen. germ. c. ic. Endlicher gen. no.* 1552. ——— Diphyllum *Rafinesq. Journ. Phys.* 89. 261. fide *Endlich.*

Sepala et petala conformia, herbacea, patula aut reflexa. Labellum liberum, sæpiùs pendulum, sepalis longius, lineare, integrum aut bifidum basi canaliculatum. Columna nana, carnosa, libera; rostello rotundato, labio stigmatis inferiore majore. Clinandrium cucullatum, vel margine membranaceum, ultra antheræ basin elevatum. Anthera dorsalis, ovata, bilocularis. Pollinia 2, sulcata, pulverea, glandulâ minutissimâ colligata. ———Herbæ terrestres radicibus repentibus. Caulis medio bifolius. Folia opposita. Scapus nudus v. rarò squamulosus. Flores herbacei spicati.

1. Listera ovata. *R. Br. l. c. Nees jun. gen. ic.*

L. foliis subrotundo-ovalibus, scapo pubescente squamulâ unâ alterâve ovatâ appressâ instructo, labello bipartito basi rotundato sepalis erectis plus duplo longiore.

Ophrys ovata. *Linn. Sp. Pl.* 1340. *Fl. Dan. t.* 137. *Eng. Bot. t.* 1548.
Epipactis ovata. *Swartz. act. holm.* 1800. 232. *Willd.* 4. 87.
Neottia latifolia. *Rich. orch. annot.* 37.

Hab. in herbidis per omnem *Europam,* (*v. v. sp.*)

2. Listera Banksiana.

L. foliis oblongis acutis, scapo filiformi pubescente squamulâ unâ alterâve foliaceâ patulâ instructo, labello elongato cuneato emarginato sepalis lanceolatis patulis duplò longiore.

Ophrys Banksiana. *Menzies MSS.*

Hab. in insula *Banks, Menzies.* (*hab. s. sp. comm. cel. inventor.*)

A slender plant, from 6 inches to a foot and a half high. The flowers are arranged in loose racemes, upon pedicels 3 lines long. The anther-bed is hooded as in *L. ovata.*

3. Listera Escholtziana. *Chamiss. in Linnæa* 3. 33.

L. foliis orbiculato-ovatis scapi longitudine, racemo pubescente, bracteis pedicellis æqualibus, sepalis acutis mox reflexis, labello obcordato patente, columnâ elongatâ rectâ.

Hab. in *Unalaschka,* ad radices montium in graminosis copiosè, Chamisso.

Hooker unites this plant with the next species; but Chamisso says that the leaves are rounder than in *L. cordata,* the raceme downy, the bracts as long as the pedicels; none of which circumstances accord with *L. convallarioides.*

4. Listera convallarioides. *Nutt. gen.* 2. 191. *Hooker fl. bor. am.* 2. 204. 205.

L. foliis oblongis obtusis scapo nudo æqualibus, racemo glabro, bracteis pedicellis duplò brevioribus, sepalis lanceolatis demum reflexis, labello obcordato basi utrinque dentato, columnâ elongatâ arcuatâ.

Epipactis convallarioides. *Swartz. act. holm.* 1800. 232. *Willd.* 4. 88. *excl. syn. Mich.*
Neottia convallarioides. *Rich. l. c.*

Hab. in *Amer. septentrionali;* Canada, Torrey; in montes scopulosos sylvis umbrosis paludosis, *Drummond;* ora occidentali, Menzies. (*hab. s. sp. comm. cel. Hooker.*)

A small plant, with the look of *Liparis nepalensis.*

5. Listera cordata. *R. Br. l. c.*

L. foliis subrotundo-ovatis subcordatis scapo nudo brevioribus, racemo glabro, bracteis minimis obtusis, sepalis ovatis patentibus, labello lineari bipartito basi utrinque lobato, sepalis vix duplò longiore, ovario pedicelli longitudine.

Ophrys cordata. *Linn. sp. pl.* 1340. *Eng. Bot. t.* 358.
Epipactis cordata. *Swartz Act. Holm.* 1800. 232. *Willd.* 4. 88.
Neottia cordata. *Rich. l. c.*

Hab. in *hemisphæra septentrionali* utriusque orbis, humidis alpinis frigidis; Angliæ, Lapponiæ, Sueciæ, omnis Germaniæ et Helvetiæ, Sitchæ, Labradoriæ, Unalaschkæ, Americæ occidentalis et orientalis, (*hab. s. sp.*)

This little plant varies much in stature. I have it 3 inches high from Sitcha and Lapland, while my North West American specimens are more than a foot in height. It seems to vary a little in the form of the leaves which sometimes become oblate: otherwise its structure appears to be very uniform.

6. Listera australis.

L. foliis ovatis acutis scapo nudo brevioribus, racemo minutissimè glanduloso-scabro, sepalis ovatis reflexis, petalis revolutis, labello lineari bipartito basi subsagittato sepalis ter quater longiore, laciniis setaceis, ovario pedicellis glandulosis duplò breviore.

Listera convallarioides. *Elliott Carol.* 2. 494.

Hab. in *Carolina; Elliott, Drummond.* (*hab. s. sp.*)

This species is quite distinct from *L. cordata* to which it approaches nearest, and is readily known by its thin ovate leaves, very long lip, and loosely racemose flowers.

Listera reniformis (Don prodr. p. 28) is the *Aopla reniformis* described at p. 304; as the learned author has obligingly informed me.

CCLXIII. NEOTTIA.

Neottia. *Linn. in act. ups.* 1740. *p.* 33. *Richard diss.* 37. *Endlich. gen. no.* 1551. *parte, nec Swartzii, Persoonii, aut Brownii.*——Neottidium. *Schlecht. fl. Berol. LXV.*——Diostomæa. *Spenner. fl. Friburg. fide Endl.*

Sepala et petala conformia, discolora, patula aut reflexa. Labellum liberum, pendulum, oblongum, sepalis longius, basi excavatum, apice bilobum. Columna elongata, teres, carnosa, libera; rostello ovato, obtuso, labio stigmatis inferiore minore. Clinandrium planum, margine carnosum, rarò in cucullum aut processum productum. Anthera dorsalis, ovata, bilocularis. Pollinia 2, sulcata, pulverea; glandulâ nullâ?——Herbæ in radicibus parasiticæ, aphyllæ, radicibus carnosis vermicularibus, intertextis. Scapus vaginatus. Flores racemosi.

It seems to me inexpedient to abstract the name Neottia, which signifies a nest, from the *Bird's nest Orchis* or *Nidusavis* of the herbalists, to which it was originally applied, and to transfer it to the *Lady's traces* (Spiranthes) in which the "Neottious" structure does not exist. No critical rules could justify the measure, even if supported by their rigorous application; which is not the case. The fact is that the word was first used by Linnæus in the Upsal Transactions for 1740, when he applied it to a genus consisting of *Spiranthes æstivalis* and *Neottia Nidus avis*. The word itself, therefore, if it is worth discussing verbal niceties in such a question, is at least as applicable to the plant for which I retain it, in common with a few other botanists, as it is to Spiranthes.

With regard to the genera *Neottia* and *Listera*, I confess there is nothing that can be pointed out as a satisfactory distinctive mark except their habit; and therefore the latter genus would have to be suppressed if the structure of the flowers is to be alone insisted upon. But the habit of these plants is so totally dissimilar that I think it would be unwise to unite them. Reliance has been placed indeed upon a character for separating *Listera* from *Neottia*, which, at first sight, seems more important than it really is. *Listera* has a cucullate anther-bed and *Neottia* a flat one, and when *L. ovata* is compared with *N. Nidus Avis* and *listeroides* this difference becomes very striking; but *L. cordata*, and some of the other small species, has the borders of the anther-bed scarcely at all elevated, and *N. kamtchatica*, with the habit of *Nidus avis* has the anther-bed of *L. ovata*. The elongation of the column is not more uniform; for although it distinctly occurs in all the *Neottias*, yet the column approaches that condition in *Listera Banksiana*, and in *L. convallarioides* is as long in proportion as that of *Neottia Nidus Avis*.

1. Neottia Nidus Avis. *Linn. in act. ups.* 1740. *p.* 33. *Rich. orch. Europ.* 37.

N. glabra, sepalis petalisque ovatis erectis, labelli laciniis recurvis rotundatis.

Ophrys Nidus Avis. *Linn. sp. pl.* 1339. *Eng. Bot. t.* 48. *Fl. Dan. t.* 181.
Epipactis Nidus Avis. *Swartz. act. holm.* 1800. *p.* 232. *Willd. no.* 9.
Listera Nidus Avis. *Hooker, Fl. Lond. t.* 58.
Neottidium Nidus Avis. *Nees jun. gen. germ. c. ic.*

Hab. in *Europâ mediâ*; Anglia, Suecia, Germania, Helvetia, Hungaria, in nemoribus tenebrosis. (*v. v. sp.*)

2. Neottia listeroides. *Lindl. in Royle's Himal. p.* 368.

N. pubescens, sepalis petalisque linearibus obtusis reflexis, labelli elongati cuneati laciniis ciliatis acutis rectis: mucrone interjecto, columnâ incurvâ.

Hab. in *India septentrionali;* in montibus prope Mussooree, *Royle.* (*hab. s. sp. comm. cel. inventor.*)

Of this curious plant I possess two forms, through the kindness of Dr. Royle; one is a foot high, and as stout as the European species; the other is a thin attenuated individual, but little larger than some specimens of Listera cordata.

3. Neottia kamtchatica.

N. subpubescens, sepalis ovatis patentibus, petalis minoribus linearibus obtusis, labello lineari bilobo, clinandrio cucullato.

Ophrys camtschatea. *Linn. sp. pl.* 1343.
Epipactis camtschatea. *Swartz. act. holm.* 1800. *p.* 232.
Neottia nectarii labio bifido lineari. *Amœn. acad.* 2. 361. *t.* 4. *f.* 24.

Hab. in *Sibiria.* (*hab. s. sp. comm. cel. acad. sc. Petrop.*)

This plant has quite the habit of Neottia, to which Linnæus rightly referred it. Its flowers are small, and arranged in a loose raceme.

4. Neottia micrantha.

N. glaberrima, sepalis lanceolatis acuminatissimis patentibus, petalis minoribus conformibus, labello breviore ovato acuminato basi excavato, clinandrio nudo.

Hab. in *Sibiria, Prescott.* (*hab. s. sp.*)

A slender plant, a foot high, with a narrow raceme of distinct flowers, the smallest in the genus, and an ovate taper-pointed membranous lip. I only know it from a single specimen given me by the late Mr. Prescott, without any other mark than that of being Siberian.

Professor Don informs me that the *Neottias* described by him in the *Prodromus Floræ Nepalensis* are to be referred to the following plants:—

Neottia macrophylla to Herminium congestum p. 305.

Neottia monophylla to Herminium gramineum p. 305.

Neottia plantaginea to Dienia congesta p. 22.

CCLXIV. CALOCHILUS.

Calochilus. *R. Brown, prodr.* 1. 320. *Endlicher, gen. pl. no.* 1580.

Sepala patula, æqualia, omninò libera. Petala minora, erecta. Labellum sessile, simplex, liberum, dependens, acuminatum, disco intus marginibusque barbatum. Columna carnosa, nana, teres; clinandrio cucullato; rostello acuto. Anthera stigmate parallela, intra clinandrii marginem inserta, mucronata. Pollinia 2. sulcata.———Herbæ glabræ Australasicæ, radicibus fibrosis. (Bulbi indivisi, nudi, *R. Br.*) Folia ensiformia, canaliculata, quædam caulina. Racemus angustus, rarus. Flores rufi.

1. Calochilus campestris. *R. Brown, l. c. Bot. Mag. t.* 3187.

C. labello sepalis acuminatis parum longiore, acumine semilanceolato laminâ 5-plo breviore, columnâ basi biglandulosâ bracteis apice setaceis ovarium superantibus, spicâ rarâ 4-8-florâ, foliis radicalibus cauli subæqualibus antherâ mucronatâ.

Hab. in *Australia*, tùm tropicâ, tùm temperatâ, R. Brown; in *Tasmanniâ*, in solo sterili arenoso, per hiemem humido, *Gunn.* 919. (*hab. s. sp.*)

Stem 6 inches to 1½ foot high, with narrow channelled leaves that are nearly as long as the stem. Lip 6 lines long.

I describe this plant from Tasmannian specimens given me by Messrs. Gunn and Everett; and they are certainly the same as the species figured in the Botanical Magazine. But a copy of a drawing by Ferdinand Bauer, of Brown's *Calochilus campestris,* made in Shoal Water Bay, represents that plant as having less acuminate sepals and bracts, and a lip with a longer beard. Possibly there are two species in Australia, to which Brown's character equally applies.

2. Calochilus herbaceus.

C. labello sepalis ovatis acutis parum longiore: acumine brevi recto semilanceolato, columnâ basi biglandulosâ, bracteis apice setaceis ovario æqualibus, spicâ brevi 2-4-florâ, foliis radicalibus nullis caulinis 3 distantibus acuminatis, anthera mucronatâ.

Hab. in *Tasmanniâ;* ad Rocky Cape, arenâ sterili, Decembre florens, *Gunn.* 920. (*hab. s. sp.*)

This plant seems distinct from *C. campestris,* (under which name I have sent it to some of my correspondents) in its close small flowers which are pale green or *white,* in the want of radical leaves, and its tall graceful habit. The glands at the base of the column are smaller than in the last. My specimens are uniformly of the same height, that of a foot.

3. Calochilus paludosus. *R. Br. l. c. Endlich. iconogr. t.* 1580.

C. "labello perianthio duplò longiore: acumine ligulato flexuoso dimidium laminæ subæquante, columnâ basi eglandulosâ, bracteis ovario brevioribus, spicâ 2-4-florâ." (antherâ obtusâ)

Hab. in *Australia;* ad Portum Jackson, R. Brown.

I have not seen this. From Bauer's figure, as published by Endlicher, it seems very like *C. campestris,* but more slender, with a more tapering

labellum, and a rounded, not mucronate anther. Brown describes the column as without glands, but Bauer seems to represent them at fig. C. 3. of the plate above quoted.

CCLXV. EPIPACTIS.

Epipactis. *Camerar. epit.* 187. *Haller enum. stirp. helv.* 1. 277. *L. C. Richard. annot. p.* 29. *fig.* 8. *Nees, jun. gen. pl. ic. Endlicher genera, no.* 1553.

Flores pedicellati. Perianthium patens, conforme, sepalis petalisque subæqualibus. Labellum oblongum, liberum, interruptum, hypochilio concavo carnoso, epichilio petaloideo dilatato indiviso basi calloso. Columna teres, vel anticè complanata, stigmate quadrato deorsùm prominente. Anthera postica, cordata, mutica, in stigma truncatum apiculatum incumbens. Pollinia pulverea, bipartita, apice angustata.——Herbæ terrestres, rhizomate subterraneo repente, foliis plicatis basi cucullatis. Flores laxè spicati, semiherbacei, sæpius purpurascentes, pubescentes.

Endlicher has rightly referred this genus to Neotteæ, notwithstanding its supposed affinity with Cephalanthera, which stands in Arethuseæ.

1. Epipactis palustris. *Swartz. act. holm.* 1800. *p.* 232. *Willd.* 4. 84. *Hook. fl. Lond. t.* 89. *Nees jun. gen. pl. ic. Rchb. fl. excurs.* 1. 134. *Mayrhof. diss.* 46.

E. foliis lanceolatis erectis 5-nerviis, racemo brevi paucifloro, bracteis inferioribus ovarii longitudine, hypochilio cuneato truncato margine lævi, epichilio membranaceo subrotundo obtusissimo undulato basi bilamellato sepalis longiore.

Helleborine palustris nostras. *Raii syn.* 384.
Serapias longifolia. *Linn. syst. nat. ed.* 12. 2. 593. *Bot. Cab.* 156. *Host synops.* 494.
Serapias palustris. *Scop. carn.* 2. 204. *Eng. Bot. t.* 270.
Helleborine latifolia. *Fl. Dan. t.* 267.

Hab. in *Europâ* mediâ et australi, usque ad Petropolim, sed vix Asiæ incola, (*v. v. sp.*)

The short racemes, long narrow leaves, and thin rounded wavy epichilium, mark this species distinctly.

2. Epipactis microphylla. *Swartz. act. holm.* 1800. *p.* 232. *Willd. sp.* 4. 84. *Waldst. et Kit. pl. hung. t.* 270. *Mayrhof. diss.* 46. *Koch. fl. germ.* 695.

E. foliis ovato-lanceolatis lanceolatisque enerviis intermediis et superioribus internodio brevioribus, racemo elongato multifloro, bracteis inferioribus floribus longioribus, hypochilio oblongo margine tenui crispo, epichilio ovato acuto crispo basi confusè verrucoso sepalis æquali.

Serapias microphylla. *Ehr. Beitr.* 4. 42. *Hoffm. fl. germ.* 319.

Hab. in *Europâ* australiore; Hungaria, *Sadler,* Florentiæ *Strangways,* (*hab. s. sp.*)

A slender plant with very small leaves, and yellowish green flowers smelling of cloves. It appears very distinct from both *E. latifolia* and *atrorubens.*

3. Epipactis latifolia. *Swartz. act. holm.* 1800, *p.* 232. *Willd. sp. pl.* 4. 83. *Hooker Fl. Lond. t.* 102.

E. foliis oblongis ovatisque multinerviis internodio longioribus, racemo elongato multifloro, bracteis inferioribus floribus paulo longioribus, hypochilio subrotundo intùs tuberculatim calloso, epichilio breviore cordato acuminato basi bituberculato sepalis paulo breviore.

Serapias latifolia. *Linn. syst. veg.* 678. *Eng. Bot. t.* 269.
Serapias Helleborine, &c. *Linn. sp. pl.* 1344.
Epipactis Helleborine. *Crantz. austr. fasc.* 6. 467. *t.* 1. *f.* 6. *c.*
Epipactis uliginosa. *Vest.* fide *Rchb.*

β. bracteis longioribus.

Epipactis purpurata. *Smith Eng. Fl.* 4. 41. *Eng. Bot. suppl. t.* 2775.

Hab. in omni *Europâ* mediâ et australi, in nemoribus; necnon in montibus altaicis, Ledebour, et Sibiria, Gmelin, (*v. v. sp.*)

Flowers greenish, almost scentless, tinged with pink. The epichilium is acuminated, a little crisp, and has two very conspicuous tubercles at the base; the hollow of the hypochilium is well described by Crantz as "vernice splendente inuncta." I have examined specimens of E. purpurata gathered near Woburn by Mr. Forbes; and I see little or nothing to distinguish them from E. latifolia.

4. Epipactis atrorubens. *Schultes Oesterr. fl.* 1. 58. *Rchb. fl. excurs.* 1. 133. *pl. crit. VIII. Mayrhof. diss.* 45.

E. foliis oblongis ovatisque multinerviis internodio longioribus, racemo longissimo multifloro, bracteis inferioribus floribus æqualibus, hypochilio ovali lævi, epichilio subrotundo plano acuto basi bituberculato sepalis paulo breviore.

Epipactis latifolia var. *Hoffm. d. fl.* 2. 182. *Gaud. helv.* 5. 465. *Koch. fl. germ.* 695, &c.
E. viridiflora. *Rchb. ic. f.* 1142.

Hab. in *Germania* et *Hungaria*. (*hab. s. sp.*)

This is a taller plant than *E. latifolia*, with much longer racemes, and flowers sweetly perfumed with Vanilla, usually deep purple, sometimes green, as in *E. latifolia* itself. I retain it as a distinct species chiefly on account of the form of the labellum, which is certainly different from that of *E. latifolia.*

5. Epipactis macrostachya. *Lindl. in Wall. cat. no.* 7404.

E. foliis oblongis acuminatis amplexicaulibus multinerviis, racemo longissimo multifloro, bracteis foliaceis inferioribus floribus duplò longioribus, hypochilio subrotundo, epichilio ovato acuto basi lævi sepalis breviore.

Hab. in *India septentrionali;* Gossain Than, *Wallich.* (*hab. s. sp.*)

This species is extremely like *E. latifolia*, from which, however, the acuminate form of the cauline leaves, and the long leafy bracts, appear to distinguish it sufficiently.

6. Epipactis Royleana. *Lindl. in Royles' Illustr.* 368.

E. foliis ovato-oblongis acutis amplexicaulibus multinerviis, racemo raro paucifloro, bracteis inferioribus foliaceis floribus duplò longioribus, hypochilio cuneato truncato, epichilio parvo ovato obtuso membranaceo: metachilio rhombeo carnoso interposito.

Hab. in *India septentrionali;* Lippa, prov. Kunawur, *Royle,* (*exam. s. sp. in. hb. Royle.*)

About a foot high. Raceme in the specimen I examined 6-flowered,

with leafy concave bracts. The lip is strikingly different from that of any other species.

7. Epipactis herbacea. *Lindl. in Royle's Illustr.* 368.

E. foliis ovalibus acuminatis multinerviis basi angustatis, spicâ brevi sessili, bracteis lineari-lanceolatis acuminatis floribus duplò longioribus, hypochilio subrotundo, epichilio ovato acuminato plano.

Hab. in *India septentrionali;* prov. Mussooree, *Royle,* (*v. ic. pict. penes D. Royle.*)

Apparently distinct from *E. macrostachya* in its short dense spike of green flowers, which is not elevated on a long scape. I only know it from Dr. Royle's drawings. It approaches the species just mentioned in the details of structure, but is a very different looking plant.

8. Epipactis americana. *Lindl. in Ann. nat. hist.* 4. 385.

E. foliis 5-nerviis inferioribus ovalibus superioribus ensiformi-lanceolatis, bracteis foliaceis floribus multò logioribus, racemo laxo sursùm pubescente, hypochilio oblato ventricoso medio muricato, epichilio multò minore ovato acumine latâ membranaceâ.

Epipactis gigantea. *Douglas MSS. Hooker. Fl. Bor. am.* 2. 220. *t.* 202.

Hab. in *America septentrionali;* Mexico, juxta Rio del Salto cataractas, locis umbrosis, Aprili, *Hartweg;* Nova Albion, *Douglas;* Texas, *Drummond;* (*hab. s. sp.*)

This species, which is the only Epipactis found in America, has a range from the Rocky Mountains to Mexico, through all which space it maintains its character. I owe my friend, Sir Wm. Hooker, an apology for not adopting the name he found among Douglas's plants; but as there is nothing remarkable in the stature of the species generally, I trust he will admit my name, which was published before I had received the 11th part of the *Flora Boreali-americana.* The species has fine large flowers like *E. consimilis,* to which it approaches very closely.

Division III. SPIRANTHIDÆ.

CCLXVI. CNEMIDIA.

Cnemidia. *Lindl. in Bot. Reg. sub* 1618. *Endlich. gen.* 1566.——Decaisnia. *Lindl. in Wall. Cat. nec. A. Brongn.*

Perianthium connivens. Sepala lateralia semiconnata, basi in calcare spurio producta. Labellum posticum, liberum, calcaratum, canaliculatum, acuminatum. Columna teres, apice acuminata, rostello acuminato bifido, clinandrio declivi immarginato. Anthera subulata. Pollinia 2, caudiculâ subulatâ.——Herbæ caulescentes, foliosæ, rigidæ, ramosæ, glabræ, Indiæ orientalis. Caules v. rami diphylli, basi laxè vaginati. Folia lata, plicata, vaginantia, quasi opposita. Racemi densi, pedunculo terminali omninò nudo, foliis breviore. Bracteæ rigidæ.

Although the supposed genus to which, at the instance of M. Adolphe Brongniart, I consented that the name of Decaisnia should be transferred, proves to be the same as *Prescottia* (*see Ann. of Nat. Hist.* vi.) yet I do not think it advisable to renew the name, because it would only create more confusion than already exists.

These plants are in foliage like Chloidia, Evelyna and Sobralia.

1. Cnemidia angulosa. *Lindl. in Wall. Cat. no. 7388. sub. Decaisnia.*

C. foliis ovato-oblongis acuminatis, sepalis ovatis acutis carinatis lateralibus ultrà medium connatis.

Hab. in *India orientali*; in montibus prov. Sylhet, *Wallich,* Courtallum, *Wight* 928. (*hab. s. sp.*)

Caulis spithamæus et ultra, simplex et ramosus, vaginis 4, laxis, rigidis, distantibus, cucullatis, obtusis. Folia quasi opposita, 3-5 poll. longa, 2-3 $\frac{1}{4}$ lata. Pedunculus foliis brevior. Spica brevis, densa, obtusa. Bracteæ lineares, acuminatæ, rigidæ, floribus breviores. Sepala et petala ovato-lanceolata, acuta, carinata. Labellum ovatum, acuminatum.

2. Cnemidia semilibera.

C. foliis ovalibus utrinque acutis, sepalis linearibus obtusis lateralibus infra medium liberis.

Hab. in *India orientali*, *Wallich.* (*hab. s. sp.*)

This species is very like the last, but is rather larger, and has a longer spike. The distinction in the flowers is remarkable with so little difference of habit.

CCLXVII. SPIRANTHES.

Spiranthes. *Rich. orch. europ. annot.* 28. (1817). *Endlicher genera plant. no.* 1547.——— Gyrostachys. *Pers. syn.* 2. 511. (1807).———Ibidium. *Salisb. in hort. trans.* 1. 261. (1812).———Cyclopogon et Sarcoglottis. *Presl. reliq. Hænk. vol.* 1.———Aristotelia. *Lour. fl. coch.*———Neottia. *Plurimorum.*

Perianthium ringens. Sepala lateralia labello supposita, basi obliqua et in ovarium decurrentia; dorsale petalis agglutinatum. Labellum pedi productæ columnæ affixum, unguiculatum, rarò sessile, oblongum, sæpiùs apice dilatatum nunc trilobum, semper callis duobus infra medium instructum, columnæ adpressum, eique marginibus inflexis arctè adhærens. Columna basi arcuatum et ovarii apicem obliquè terminans, in pede productum, teres; stigmate ovato, in rostellum acuminatum demùm bifidum, aut obtusum emarginatum, rarò corneum indivisum producto. Anthera dorsalis, acuminata, v. obtusa, nunc membranâ apiculata, bilocularis; clinandrio utrinque membranaceo marginato. Pollinia 2, pulverea, bipartita, glandulæ communi oblongæ affixa.———Herbæ, utriusque orbis, terrestres, sæpiùs parvifloræ et glanduloso-pubescentes, radicibus fasciculatis. Folia radicalia, nunc caulescentia, texturâ Orchidis; nunc omninò deficientia. Flores spicati, spirales, in sectione *Sarcoglottide* magni.

The botanist who would separate *Sarcoglottis* from *Spiranthes* can I think do so only upon the ground assigned in the distinctive character here proposed for it as a section. At least I can find no positive structural mark of difference, the distinctions between the two depending upon slight variations in form, size and direction of the floral organs.

From *Goodyera* Spiranthes is known by the two calli at the base of its labellum, which adheres to the column by its middle, essential characters

because they are uniform, and especially by the lateral sepals being in all cases oblique at the base, and running down the ovary more or less. But it is not to be distinguished by its subulate bifid rostellum, for in *S. bracteosa* and others that part has the form of Goodyera.

Stenorhynchus and *Pelexia* are both cut off by the want of calli to their lip.

§ 1. EUSPIRANTHES. *Sepala subparallela. Labelli porrecti lamina recta aut rectiuscula, sepalis basi parum productis subæqualis. Flores horizontales.*

A. *angustifoliæ ;* folis nempe linearibus v. lanceolatis in petiolum sensim angustatis.

1. SPIRANTHES æstivalis. *Rich. orch. annot.* 36. *Mayrhof diss.* 37. *Koch. fl. germ.* 696. *Rchb. pl. crit. t.* 337.

S. foliis radicalibus caulinisque lineari-lanceolatis, floribus spiralibus, bracteis glabris ovatis ovario longioribus, labello oblongo glabro (tuberculis fusiformibus.)

Neottia æstivalis. *Lam. enc.* 4. 567. *Pers. syn.* 2. 511. *Host fl. austr.* 2. 542. *Hooker, Fl. Brit. fl. ed.* 4. 318.
Ophrys æstiva. *Balb. addit.* 96. *ex Koch.*

Hab. in *Europâ mediâ* in pascuis et pratis, Jul. Aug. florens ; etiam in Sarniâ, Babington. (*hab. s. sp.*)

Certainly a distinct plant from *S. autumnalis*, and readily known by its narrow ensiform leaves and leafy stem. Flowers white, much less secund, and in a thinner raceme.

2. SPIRANTHES Romanzoffiana. *Chamiss. in Linnæa.* 3. 32.

S. foliis radicalibus caulinisque lanceolatis scapo folioso evaginato æqualibus, spicâ oblongâ densâ glabriusculâ, bracteis foliaceis floribus longioribus, sepalis lateralibus dorsali multò latioribus, labello oblongo-lanceolato obtuso basi latiore apice crispatulo.

Hab. in *Unalaschka*, in alveo turfoso convallium infimorum, passim, *Chamisso, Eschscholtz.* (*hab. s. sp. comm. cel. Fischer.*)

A dwarf species in the way of *S. æstivalis* with all the short stout stem leafy, and not clothed with scales. The oblong flower-heads with long leafy bracts give it a very distinct appearance. The specimens I have seen vary in height from 3 to 7 inches.

3. SRIRANTHES gemmipara. *Lindl. synops.* 257.

Neottia gemmipara. *Smith, Engl. fl.* 4. 36. *Eng. Bot. Suppl. t.* 2786.

Hab in *Hibernia* ; prope Castletown in sinu Bantry, Jas. Drummond. (*v. s. in hb. Smith.*)

That this obscure plant is actually the same as *Spiranthes Romanzoffiana* I cannot absolutely affirm, because I have had no opportunity of examining its flowers. But the resemblance between them is so great that I scarcely entertain a doubt upon the subject.

4. SPIRANTHES australis. *Lindl. in Bot. Reg.* 823.

S. foliis radicalibus caulinisque linearibus aut lineari-lanceolatis obtusis acutisve nunc ensiformibus, floribus spiralibus glabris aut sæpiùs pubes-

centibus, bracteis ovatis ovario longioribus, labello oblongo apice dilatato crispo supra piloso.

Neottia crispata. *Blume Bijdr.* 406.

α. spicâ pubescente mediocri.

Epipactis foliis plerisque ex lineari-lanceolatis. *Gmel. fl. sib.* 1. *t.* 3. *f.* 1.
Neottia amœna. *M. Bieb. fl. taur. cauc.* 3. 606.
Spiranthes amœna. *Brongn. enum. pl. chin.* 63. *Led. fl. alt.* 4. 173.

β. spicâ pubescente elongatâ pluries spirali.

Neottia flexuosa. *Smith in Rees.*
S. flexuosa. *Lindl. in Bot. Reg.* 823. *Spreng. syst. l. c.*
Neottia australis. *R. Brown prod.* 319. *Don prodr. fl. nep.* 27.

γ. spicâ valdè elongatâ pubescente, floribus minoribus.

Neottia parviflora. *Smith in Rees.*
S. parviflora. *Lindl. l. c.*
? Neottia strateumatica. *R. Br. prodr.* 319.
? Spiranthes strateumatica. *Lindl. in Bot. Reg.* 823.
? Orchis strateumatica. *Linn. sp. pl.* 1336. *fl. zeyl.* 319.

δ. spicâ breviore pubescente, foliis omnibus radicalibus (*plantaginea*).

S. Wightiana. *Lindl. in Wall. Cat.* 7378.

ε. spicâ glabrâ.

S. pudica. *Lindl. Coll. Bot. t.* 30. *Spreng. syst.* 3. 708.
Aristotelia spiralis. *Lour. fl. cochinch.*
Neottia sinensis. *Pers. syn.* 2. 511.

Hab. in *Asia*, a gradu 50ª lat. Sept. ad. 43ᵃᵐ. lat. aust.; ad Ircutiam et Catharinopolin, Gmelin; Doroninsk, *Prescott*; Bootan, *Griffith* herb. ind. 19.; per omnem Indiam septentrionalem, *Royle, Wallich*; necnon in montibus peninsulæ, *Wight*, et Zeylonæ, *Walker*; in China, *Vachell*; Java, Blume; Australia ad Portum Jackson in palustribus, *Cunningham*; Tasmannia, *Gunn* 754; (*v. ferè omnes s. sp.; ε, v. c. et. s. sp. collegit cel. Vachell.*)

Of this very variable plant I have examined specimens from every country above enumerated, except from Java; and I have little doubt that all the forms and synonyms above quoted belong to one and the same species. To var. γ some uncertainty may attach, but it does not seem to me to possess any greater peculiarity than that of the flowers being a little smaller. Differences in stature, pubescence, colour and developement of inflorescence, and the uncommon circumstance of an Orchidaceous plant being so widely dispersed (for the species of the order are usually local) have been the causes of so many species being proposed. In all the varieties I find the leaves inconstant in form. The var. δ is very like *S. autumnalis*, and has the greatest claim to be regarded as a species.

This species scarcely differs from *S. æstivalis* except in the rounded dilated hairy apex of the lip and constantly smaller flowers. Sprengel, with singular perversity, characterizes my *S. pudica*, which is remarkable for its perfect smoothness, as a pubescent species! and, while he distinguishes after me *S. parviflora, flexuosa et pudica*, reduces to *S. amœna*, my *S. congesta*, which is really a different species.

As it appears that the *Orchis strateumatica* of Linnæus is a Neottia, according to Brown's idea of that genus, I presume it must belong to this species because I have seen no other Spiranthes from Ceylon; at the same time it is to be observed that the character given by Linnæus is altogether at variance with the genus Spiranthes.

5. Spiranthes congesta. *Lindl. in Bot. Reg.* 823. cum char.

S. foliis radicalibus caulinisque lanceolatis, scapo bivaginato, spicâ pauciflorâ conicâ puberulâ, bracteis ovatis setaceo-acuminatis floribus brevioribus, labello oblongo basi contracto subauriculato apice brevi rotundato concavo disco pubescente margine plano: callis obsoletis.

Hab in *Sibiria.* (*hab. s. sp. comm. cel. Prescott ex hb. Heumann.*)

I should have referred this plant to *Sp. australis* if I did not attach great importance to the two calli at the base of the lip and the form of that organ, as marks of specific distinction; here the calli, instead of being large conspicuous tubercles, are narrow indistinct lines, and the lip is by no means crisp at the apex. The very short conical inflorescence, not exceeding an inch in length, seems also to be a further point of difference. I only know the species by two good specimens given me by the late Mr. Prescott with a label marked "Neottia—e Sibiria, herb .Heumann."

6. Spiranthes tenuis.

S. foliis omnibus radicalibus lineari-lanceolatis coriaceis patulis, scapo erecto gracili glabro 3-vaginato, spicâ tenui multiflorâ ovariisque pubescentibus, bracteis ovatis acuminatis floribus brevioribus, sepalis petalisque linearibus acutis crystallino-papulosis, labello oblongo apice rotundato crispo pubescente: callis clavatis liberis.

Hab. in *Guayanâ gallicâ, Martin.* (*hab. s. sp. comm. cel. N. B. Ward.*)

A very slender plant, a span in height, with the appearance of S. australis. Its leaves appear to be much thicker in texture than is usual in the genus.

7. Spiranthes ovalis.

S. glaberrima, foliis radicalibus et caulinis lineari-ensiformibus acutis, spicâ ovali densâ multiflorâ, bracteis ovatis acutis, sepalis petalisque linearibus obtusis, labello oblongo membranaceo apice recurvo crispo; callis elongatis falcatis sagittam referentibus.

Hab. in *Texas, Drummond.* (*exam. s. sp. in herb. Hooker.*)

A plant from 6 to 9 inches high. Spike like that of *S. odorata,* but much smaller, and the flowers not larger than those of *S. gracilis.* A very distinct and apparently rare plant; for it seems that Mr Drummond found only three specimens, all preserved in Hooker's Herbarium.

8. Spiranthes graminea. *Lindl. in Benth. Pl. Hartweg, p.* 25. *no.* 224.

S. foliis radicalibus caulinisque lato-linearibus acutis basi angustatis, scapo vaginato apice tomentoso, spicâ ovali-lanceolatâ densâ multiflorâ, bracteis ovatis acuminatis floribus æqualibus, sepalis pubescentibus petalisque linearibus obtusis, labello ovato membranaceo glabro apice crispo rotundato; callis subrotundis adnatis.

Hab. in *Mexico,* in uliginosis Lagos, *Hartweg.* (*hab. s. sp.*)

The nearest affinity of this species is with *Sp. ovalis,* from which it differs, not only in the characters above given, but in its greater stature, (my specimen is nearly 1½ foot high) narrow leaves, and much more simply twisted spike, which in *S. ovalis* seems to have several spires as in *S. odorata* and its allies.

9. Spiranthes cernua. *Rich. orch. annot.* 37. *Hooker flor. bor. amer.* 2. 202.

S. foliis radicalibus lineari-lanceolatis scapi ferè longitudine, spicâ densâ tortili pubescente, bracteis lanceolatis acuminatis incurvis pilosis floribus æqualibus, labello oblongo medio nonnihil constricto apice rotundato crispo membranaceo: callis minutis conicis.

Neottia cernua. *Willd. sp. pl.* 4. 75. *Sweet Brit. fl. gard.* 1. 42. *Bot. Mag. t.* 1568.
Ophrys cernua. *Linn. sp. pl.* 1340.

Hab. in *Americâ septentrionali*; a Canada ad Louisianam, (*hab. s. sp.*)

Flowers large, white, very slightly downy.

10. Spiranthes longilabris.

S. foliis radicalibus ...., spicâ laxâ secundâ multiflorâ pilosâ, bracteis lanceolatis acuminatis glabris floribus brevioribus, labello ovato-lanceolato acuminato apice retrorsum lacero carnoso: callis conicis.

Hab. in *Louisiana, Drummond.* (*hab. s. sp.*)

This is next *S. cernua*, of which it has much the appearance at first sight; but its smooth bracts, secund flowers, and very different lip, distinguish it.

11. Spiranthes porrifolia.

S. glaberrima, foliis radicalibus caulinisque strictis ensiformibus acuminatis inferioribus lanceolatis, spicâ densâ tortili multiflorâ, bracteis lineari-lanceolatis acuminatis floribus æqualibus, labello ovato-lanceolato acuminato recurvo canaliculato obtuso, callis elongatis rectis.

Hab. in *America boreali-occidentali, Douglas*, (*hab. s. sp.*)

A beautiful species with the habit of *S. odorata*. My specimens are from 1 to 1½ foot high, and the spike of flowers, from 3 to 4 inches long, is extremely dense.

12. Spiranthes odorata.

S. foliis radicalibus caulinisque ensiformibus acutis, spicâ densâ tortili pilosâ multiflorâ, bracteis lanceolatis acuminatis florum longitudine, sepalis lineari-lanceolatis apice glabris lateralibus patentissimis, labello lanceolato recurvo minutissimè ciliolato dorso scabro; callis marginalibus elongatis circinatis.

Neottia odorata. *Nutt. in Journ. acad. nat. sc. Philad. VIII.* 98.

Hab. in *Carolina*; ripis lutosis inundatis fluvii Neuze, prope Newbern, cum Eryngio virginiano, Nuttall; Novo Aureliano, *Drummond*, 333, (*hab. s. sp.*)

The largest and finest Spiranthes in the United States, possessed of a very sensible and delicate fragrance. The flowers white, slightly inclining to green. The root runs considerably, and possesses very thick branching fibres. The leaves are also very long and numerous; the bracts nearly the length of the flowers, and sharply acuminate; the lip entire and delicately edged with a slender curling fringe. It flowers late. *Nuttall, l. c.*

13. Spiranthes latifolia. *Torrey in litt.*

S. foliis radicalibus caulinisque oblongis elongatis basi angustatis, spicâ densâ brevi tortili puberulâ, bracteis lineari-lanceolatis apice incurvis

floribus longioribus, sepalis petalisque obtusissimis gabris, labello subquadrato oblongo membranaceo apice subcrispo: callis obsoletis.

Neottia cernua, *var.* latifolia. *Torrey comp.* 320.

Hab. in *America septentrionali;* in prov. Novebor. occidentem versus, *Torrey,* (*hab. s. sp. comm. cel. inventor.*)

A species truly distinct from *S. cernua,* with smaller flowers, a different lip, and broad leaves of quite another form. My specimens vary from 4 to 9 inches in height.

14. Spiranthes diuretica. *Lindl. in Bot. Reg.* 823.

S. foliis ensiformibus omnibus radicalibus, scapo glabriusculo vaginis brevibus distantibus acutis, spicâ densâ elongatâ conicâ tomentosâ, bracteis ovatis acuminatis florum longitudine, sepalis acuminatis apice glabris, labello pubescente oblongo basi cucullato apice subrotundo dilatato papilloso undulato.

Spiranthes Nuil. *Rich orch. annot.* 37.
Neottia diuretica. *Willd.* 4. 73.
Epipactis floribus uno versu dispositis vulgò Nuil. *Feuill. peruv.* 2. 26. *t.* 17.

Hab. in *Chile,* Feuillée, *Macrae, Bridges* 607, (*hab. s. sp. et v. v. c.*)

Flowers pale green in conical spikes from 2 to 4 inches long. Stems 1 to 1½ foot high.

15. Spiranthes tortilis. *Rich. orch. annot.* 37.

S. foliis omnibus radicalibus linearibus (subpedalibus), scapo (bipedali) vaginato glabro, spicâ laxiusculâ spirali, floribus approximatis secundis cernuis glabris, labello medio carinato laminâ reflexâ concavâ trilobâ: lobis rotundatis medio majori margine crenulatis.

Satyrium spirale. *Swartz. Prodr.* 118.
Neottia tortilis. *Swartz. fl. ind. occ.* 1406 *t.* 28. *f. e.*
Neottia quadridentata. *Willd.* 4. 73. fide Richard; *ideòque.*
Ophrys peruviana. *Aubl. guyan.* 2. 816.

Hab. in *Jamaica* occidentali in graminosis aridis montium, Swartz.

16. Spiranthes bicolor. *Lindl. in Bot. Reg.* 823.

S. foliis omnibus radicalibus lanceolatis petiolatis, scapi glabri vaginis herbaceis lineari-lanceolatis acuminatis subimbricatis, spicâ elongatâ secundâ tomentosâ spirali, bracteis linearibus acuminatis floribus multò longioribus, sepalis petalisque basi gibbis lateralibus patulis, labello lineari-oblongo canaliculato basi cordato apice transverso rotundato obsoletè trifido aut crenulato intùs minutè papilloso.

Neottia bicolor. *Ker. in Bot. Reg. t.* 794.

Hab. in *Jamaicâ, Geo. Don,* (*v. v. c.*)

It is stated in the Botanical Register, by mistake, that this plant was brought from Trinidad; it was found in Jamaica by Mr. George Don, while there in the service of the Horticultural Society. The leaves are sometimes whole coloured and sometimes mottled, as in *S. picta.* The base of all the sepals is equally inflated, so as to make the little white flowers protuberant all round above the neck of the ovary.

17. Spiranthes plantaginea.

S. foliis omnibus radicalibus erectis lanceolatis nervosis petiolatis, scapi glabri vaginis distantibus appressis obtusiusculis, spicâ elongatâ simpliciter spirali subsecundâ tomentosâ, bracteis lineari-lanceolatis florum

longitudine, sepalis petalisque linearibus acutis glabris, labello lineari-oblongo carnoso glabro apice cuneato elongato obsoletè trilobo; callis sphæricis adnatis.

Hab. in *Peruvia*, ad Obrajillo, *Mathews*, 676. (*hab. s. sp.*)

A plant with the habit of *Sp. elata*, but quite smooth, and with much shorter spikes.

18. Spiranthes peruviana. *Presl. reliq. Hænk.* 1. 93.

S. "spicâ subtortili, bracteis flore æquilongis, labello ovato crenato concavo carinato, foliis petiolatis lanceolatis acutis, tuberibus oblongis."

Hab. in montanis *Peruviæ* ad Huanuco, Presl.

Said by Presl to be near *S. autumnalis*, from which it differs in the roots, leaves, and lip. "Leaves acute, lanceolate, nerved, netted, all growing from the root, 2 inches long, tapering into a petiole about an inch long. Scape 8 inches high. Spike more than an inch long, somewhat twisted. Lip ovate, smooth, crenated, deflexed at the point, but not at all crisp."

19. Spiranthes ? macrostachya. *Poppig.* et *Endlich. n. g. et sp.* 2. 8. *t.* 110. *a—k.*

S. "labello ovato, acuto, denticulato, integro, nudo; sepalis superioribus conniventibus, interioribus angustissimis, inferioribus falcatis, bracteis ovatis ovario brevioribus, spica elongata floribusque resupinatis dense pubescentibus; foliis lanceolato-linearibus."

Crescit in *Peruviâ* c. Spiranthe inæquilatera. Poppig. Herba 1½-2-pedalis. Spica semipedalis vix spiralis. Flores albidi, constanter resupinati. An Cranichis ?

B, *latifoliæ;* foliis nempè ovatis v. oblongis in petiolum subitò angustatis.

20. Spiranthes autumnalis. *Rich. orch. annot.* 37. *Mayrhof. dissert.* 36. *Nees jun. gen. germ. ic. Koch. Fl. germ.* 696.

S. foliis omnibus radicalibus ovatis v. ovato-oblongis in petiolum angustatis, floribus spiralibus secundis, bracteis pubescentibus ovatis ovario longioribus, labello apice rotundato glabro, (tuberculis ovatis.)

Neottia spiralis. *Swartz. Fl. ind. occ.* 1408. *Willd. sp. pl.* 4. 73. (*a*). *Hooker Brit. fl. ed.* 4. 318.
Ophrys spiralis. *Linn. sp. pl.* 1340. *Eng. Bot. t.* 541.
Epipactis spiralis. *Crantz austr.* 6. 473.
Neottia autumnalis. *Host. fl. austr.* 2. 542.
Ibidium spirale. *Salisb. in Hort. Trans.* 1. 261.

Hab. per omnem *Europam*, in pratis humidis, Aug. Sept. florens; etiam in *Algeria, Bové,* (*v. v. s.*)

Flowers white, deliciously sweet.

21. Spiranthes aprica.

S. foliis radicalibus ovato-oblongis concavis, scapo pubescente in medio vaginâ solitariâ acuminatâ aucto, spicâ secundâ paucíflorâ (3-5) laxâ, bracteis acuminatis floribus longioribus pubescentibus, sepalis glabris dorsali valdè convexo acuminato, labello ovato carnoso sessili apice abruptè in laminam minutam crispam membranaceam dilatato: callis minimis dentiformibus.

Hab. in *Brasilia australi,* ad Portum Alegre in solo durissimo sicco, *Tweedie,* (*hab. s. sp. comm. cel. Hooker.*)

About 3 inches high. Leaves appear to grow after the period of flowering, at which time they are very small and young. The flowers are about the size of *S. truncata.*

22. Spiranthes truncata. *Lindl. in hort.*

S. foliis ovato-oblongis acutis, scapo gracili distanter vaginato glabriusculo, spicâ laxâ paucflorâ (6-7) pilosâ, bracteis acuminatis ovario æqualibus, sepalis linearibus omnibus basi ventricosis pilosis, labello carnoso lineari canaliculato apice dilatato trilobo : lobo medio abruptè truncato angulis lateralibus acutis.

Hab. in *Brasilia,* sub Musis inter folia putrescentia, *Descourtilz.* (*v. v. c. comm. cel. Bateman.*)

A delicate little plant about a span high with 6 or 7 nodding distant flowers. The lip is white a little streaked with crimson ; the upper sepal is emerald green, the lower are paler.

23. Spiranthes Preslii.

S. foliis omnibus radicalibus ovato-oblongis acutis in petiolum paulò breviorem abruptè contractis, scapo laxè vaginis acuminatis vestito supernè pubescente, spicâ tenui, bracteis linearibus acuminatis floribus longioribus, labellum ovatum concavum sub apice plano spathulato-subrotundo constrictum.

Cyclopogon ovalifolium. *Presl. reliq. Hænk.* 1. 93. *t.* 13. *f.* 1.

Hab. in montanis *Peruviæ,* ad Huanuco, Presl.

This plant is very like *Physurus minor,* and probably possesses no mark of distinction from Spiranthes. The three-lobed process, said to exist at the base of the lip, is I fear only the column imperfectly seen.

24. Spiranthes elata. *Rich. orch. annot.* 37.

S. foliis omnibus radicalibus oblongis petiolatis nervosis, scapi squamis linearibus acuminatis haud vaginantibus, spicâ elongatâ simpliciter spirali pubescente, bracteis linearibus acuminatis ovario longioribus, sepalis linearibus obtusis glabris, labello carnoso sessili lineari canaliculato basi ventricoso apice truncato, columnâ pubescente.

Neottia elata. *Swartz. act. holm.* 1800. *p.* 226. *fl. ind. occ.* 1403. *Willd.* 4. 72. *Bot. Mag. t.* 1475.
Neottia minor. *Jacq. coll.* 3. 172. *ic. rar.* 601. *Bot. rep. t.* 376.

Hab. in *India occidentali* ; sylvis depressis Jamaicæ et Hispaniolæ, Swartz. ; Sage mount, Tortola, *Schomburgk* ; necnon in *Brasilia,* in missionibus, *herb. Hooker,* et in descensu M. Corcovado versus urbem, locis apricis granosis, et alibi *Martius.* (*v. v. c. et hab. s. sp.*)

This was formerly common in English gardens ; but it seems to have disappeared. Its stems are from 1 to 1½ foot high and stand erect above the broad spreading leaves. The flowers are small and white.

25. Spiranthes inæquilatera. *Poppig.* et *Endlich. n. g. et sp.* 2. 7. *t.* 110.

S. "labelli spathulati utrinque emarginati lobo terminali obcordato, integerrimo, nudo ; sepalis superioribus conniventibus, interioribus apice rotundatis, inferioribus falcatis ; bracteis linearibus ovario longio-

ribus; spica pubescente; foliis longe petiolatis, ovatis vel subrotundis, acutis, obliquis, inæquilateris."

Hab. in sylvis *Peruviæ* orientalis ad prædium Pampayaco. Floret Julio, Poppig.

26. Spiranthes lineata.

S. glaberrima, foliis omnibus radicalibus ovatis acuminatis petiolatis, scapi vaginis distantibus teneris supremis adpressis, spicâ simpliciter spirali elongatâ rarâ, bracteis floribus brevioribus, ovario cylindraceo, sepalis linearibus obtusis, petalis medio lineatis acutissimis, labelli laminâ rotundatâ angulatâ lineis tribus notatâ.

Hab. in *Brazilia, Martius*; sylvis densissimis provinciæ St. Pauli, *Descourtilz.* (*exam. s. sp. in hb. Martius et v. ic. pict.*)

M. Descourtilz represents this plant as throwing out very thick succulent fibres over dead sticks. The stem is 1 to 2 feet high and clothed with transparent scales; the flowers are white, very delicate, about as large as those of S. elata with a deep emerald green line along each petal, and 3 such streaks upon the broad apex of the labellum.

27. Spirantes cuspidata.

S. foliis omnibus radicalibus patentibus latè oblongis acutis aut apice rotundatis cuspidatis, scapi basi glabri vaginis laxis acuminatis sæpè imbricatis, spicâ scapo æquali spirali laxâ tomentosâ, bracteis lineari-lanceolatis acuminatis floribus æqualibus, sepalis lateralibus acuminatis et ovario tomentosis, labello obovato lævi apice crenulato basi canaliculato ob callos duos elongatos liberos sagittato.

Hab. in *Brazilia*; Villæ Viciosæ in sylvis, *Martius*; ad Rio grande, *Tweedie.* (*exam. s. sp. in hb. Hooker.*)

The broad spreading root leaves, the short scape closely covered with sheaths, and often not longer than the spike, are unlike any other species here described.

28. Spiranthes bracteosa. *Lindl. in Bot. Reg. t.* 1934.

S. bracteosa; foliis rosulatis oblongis acutis, scapo pubescente, bracteis squamisque scapi lineari-lanceolatis foliaceis floribus longioribus, sepalis ovatis pubescentibus acutis lateralibus basi connatis, spicâ rarâ rectâ, lobis lateralibus rotundatis intermedio labello pubescente canaliculato trilobo subcuneato rotundato apiculato papilloso.

Hab. in *Brazilia*; ad Rio Grande, *Tweedie.* (*v. v. c. et s. sp. in hb. Hooker.*)

The anther and rostellum of this plant are very much like those of *Goodyera*, and shew that the form of those organs is of no generic consequence among Neotteæ.

29. Spiranthes brevilabris.

S. foliis omnibus radicalibus oblongis basi obtusis petiolo longioribus, spicâ tortili hispidâ, bracteis lanceolatis florum longitudine, labello brevi oblongo utrinque rotundato apice crispo medio pubescente: callis crassis rectis obtusis intramarginalibus barbatis.

β. spicâ longiore minus hispidâ floribusque majoribus.

Hab. in *Texas, Drummond, Andrieux.* (*hab. s. sp.*)

This seems distinct from *S. gracilis*, to which it is the most nearly allied, in its spikes being very dense and covered with coarse short hairs; the lip too has quite a different form. Flowers are stated by Andrieux to be purple.

The var. β is much stouter and stronger than the other, but does not seem specifically distinct. My specimen is two feet high, while the original species is not a foot high.

30. SPIRANTHES gracilis. *Hook. fl. bor. am.* 2. 202, *t.* 203.

S. glaberrima, foliis omnibus radicalibus ovatis petiolo longioribus, scapo tenui gracili, spicâ pluriès spirali, bracteis acuminatis ovario longioribus, labello oblongo-lanceolato crispo supra pubescente: callis elongatis curvis intramarginalibus.

Neottia tortilis. *Pursh. fl. am. sept.* 2. 589, *nec Swartzii.*
Ophrys æstivalis. *Michaux. bor. am.* 2. 157.
Spiranthes tortilis. *Beck. Bot. north. st.* 343.

Hab. in *Americâ* septentrionali, a Canada ad Louisianam; etiam in *Bahamis, herb. Hooker.* (*hab. s. sp.*)

Apparently a very common species through the whole of the American union; for I have specimens from Drummond, without number, which in no respect seem to differ from the Canadian plants. The Bahama plant is smaller than those from the United States, but does not appear to be different.

31. SPIRANTHES Beckii.

S. glaberrima, foliis omnibus radicalibus angustè ovalibus petiolo æqualibus, scapo stricto filiformi, spicâ tenui spirali, bracteis ovatis apice setaceis ovario puberulo longioribus, labelli trilobi laciniis lateralibus erosis intermedio truncato-rotundato glanduloso.

Neottia tortilis. *Elliot. carol.* 2. 491.
Limodorum præcox. *Walt. carol.* 221.
Spiranthes gracilis. *Beck. Bot. north. st.* 343.

Hab. in *America septentrionali;* Massachussets, sylvis siccis, *Beck;* novæ Aurelianæ, *Drummond* 332. (*hab. s. sp.*)

A very slender species, with stems 1-1½ foot high, perfectly glabrous. The flowers are very minute. The lip has a remarkably lax cellular texture, and is quite different from that of the northern *S. gracilis.*

To this section probably belongs,

32. Neottia vaginata. *Humb. Bonpl. et Kunth. n. g. et sp. plant.* 1. 331.

Hab. in regione temperata *Peruviæ*, arboribus proceris opacissima, prope Loxam, Gonzanamam et Malacates, alt. 1060. hex. Floret Julio.

Planta terrestris? habitu *Serapiadis Linguæ.* Radix ignota. Caulis erectus, simplex, sexpollicaris, vaginatus. Vaginæ oblongæ, acutæ, concavæ, medio ventricosæ, tenuissimè membranaceæ, striatæ, glabræ, fuscescentes, pollicares, approximatæ; paucæ inferiores foliiferæ. Folia ovata, acuta, plana, reticulato-nervosa, glabra, quatuor aut quinque lineas lata, exsiccata membranacea. Flores pauci, terminales, subspicati,

bracteati. Bracteæ longitudine floris, vaginis aphyllis simillimæ. Perianthium clausum, glabrum, exsiccatum fuscescens; sepala ovato-lanceolata, acuminata, planiuscula, trinervia, basi ovario obliquè adnata, dorsale lanceolatum, concavum, petalis lanceolatis ferè usque ad apicem adhærentibus, eaque longitudine æquantibus; labellum oblongum, apice angustatum, carinato-concavum, margine ciliatum, basi calcarato-ventricosum, calyce paullò brevius. Gynostemum et Anthera ut in Stenorhyncho orchioide.

C. *aphyllæ;* nempè folia nulla v. hysteranthia.

33. Spiranthes ramentacea. *Lindl. in Ann. nat. hist.* 4.

S. glaberrima, vaginis caulis membranaceis longissimis laxis imbricatis, spicâ densâ cylindraceâ brevi, bracteis ovatis acuminatis floribus brevioribus, sepalis lateralibus patentibus linearibus obtusis petalis acutis multò longioribus, labelli limbo ovato concavo obtuso ungue et columnâ in medio pubescentibus: callis basi proximis minutis conicis.

Hab. in *Mexico,* prope Santa Barbara, regione calidâ, Aprili, *Hartweg.* (*hab. s. sp.*)

A very singular plant with the habit of an Apaturia.

34. Spiranthes pyramidalis.

S. glaberrima, vaginis caulis membranaceis oblongis acutis laxis imbricatis, spicâ elongatâ pyramidali, bracteis obovatis acuminatis floribus longioribus, sepalis basi glanduloso-pilosis acutis petalisque subæqualibus, labelli limbo ovato concavo carnoso basi bicalloso ungue parùm longiore, rostello rotundato.

Hab. in *Guatemala* vulgaris, *Skinner.* (*hab. s. sp. comm. cel. Bateman.*)

35. Spiranthes hemichrea.

S. glaberrima, vaginis caulis membranaceis oblongis acutis imbricatis, spicâ elongatâ pyramidali, bracteis oblongis acutis flore brevioribus, sepalo dorsali rhomboideo et petalis obtusis membranaceis; lateralibus angustioribus carnosis ad ovarii medium usque productis, labelli ungue lineari pubescente sub medio bicalloso laminâ ovatâ obtusâ longiore.

Hab. in *Guatemala, Skinner.* (*hab. s. sp. comm. cel. Bateman.*)

Flowers much larger than in either of the last species. Rostellum acute, becoming emarginate, never split into two setaceous parts.

36. Spiranthes camporum.

S. vaginis scapi membranaceis cucullatis apiculatis distantibus, spicâ attenuatâ multiflorâ, bracteis ovatis acuminatis venosis florum longitudine, sepalis ovatis acutis, labelli trilobi glabri lobo intermedio subrotundo tomentoso, columnâ basi barbatâ.

β. scapo floribusque tomentosis, spicâ rarâ, bracteis longioribus.

Hab. in *Monte Video,* pascuis duris aridis, *Tweedie.* (*hab. s. sp. comm. cel. Hooker.*)

This little plant appears to be common about the mouth of the Rio St. Lucie in the Banda oriental, where also it is subject to some striking variation. Some of the specimens are little more than 4 inches high, and

quite smooth; others are far larger, with a stem as thick as a goose-quill and a dense spike 6 inches long. The var. β is very downy, nearly a foot high, with the flowers separated from each other by considerable intervals. The size of the middle lobe of the lip is variable.

37. SPIRANTHES dilatata.

S. vaginis scapi acuminatis imbricatis, spicâ cylindraceâ densissimâ scapo longiore, bracteis ovatis aristatis floribus multò longioribus, sepalis acutis basi villosis lateralibus ad medium ovarii usque productis, labelli ungue lineari glabro laminâ transversè oblongâ planâ medio villosâ appendice parvâ ovatâ concavâ acutâ carnosâ apiculatâ.

Hab. in *Montevideo, Tweedie.* (*exam. s. sp. in hb. Hooker.*)

The spike is 6 inches long, extremely compact, and bristling with the sharp ends of the long bracts.

D. *sectionis dubiæ;* ob folia ignota.

38. SPIRANTHES apiculata.

S. glaberrima, foliis . . . . ., scapi squamis vaginatis laxiusculis acuminatis, spicâ rarâ elongatâ, bracteis acuminatis floribus æqualibus, sepalis petalisque acutiusculis, labello oblongo membranaceo apice ovato rotundato carnoso; callis liberis truncatis villosis.

Hab. in insula *Trinitatis, Sieber* 118. (*hab. s. sp. comm. cel. Prescott.*)

Stem rather more than a span high, with 5 acuminate sheaths. The spike is twisted in a single turn, and is about the size of *S. æstivalis,* the flowers, however, are not half the size.

39. SPIRANTHES rupestris.

S. vaginis scapi oblongis acutis imbricatis coriaceis inferioribus foliaceis, spicâ densâ thyrsoideâ pubescente, bracteis lanceolatis acuminatis floribus longioribus, sepalis ovatis obtusis tomentosis, labelli ungue lineari canaliculato extùs tomentoso laminæ subrotundæ acuminatæ basi utrinque villosæ æquali, columnâ glabrâ, rostello setaceo corneo.

Hab. in *Montevideo,* intra rupium fissuras, *Tweedie.* (*exam. s. sp. in. hb. Hooker.*)

A stout plant, a foot high, with rather large flowers in a very dense spike. I have not seen the leaves, but they appear to be very broad.

40. SPIRANTHES Llaveana. *Lindl. in Benth. plant. Hartw. p.* 72.

S. glaberrima, foliis . . . . . ., scapo squamis membranaceis acuminatis arctè appressis distanter vaginato, spicâ rarâ elongatâ spirali, bracteis acuminatis floribus multò brevioribus, sepalis petalisque acuminatis, labello lineari apice ovato apiculato pubescente; callis oblongis liberis.

Neottia micrantha. *Llave orch. Mex.* 2. 5. ?

Hab. in *Mexico,* prope Tetontopeque, Maio florens, *Hartweg.* (*hab. s. sp.*)

The stems are from 1 to 1½ foot high, as thick as a crow-quill, with the scales pressed so close to them that at first sight the scape seems to have no sheaths. The spike is very lax and from 4 to 6 inches long, with flowers resembling those of *S. elata* in point of size. The leaves I have not seen, and this circumstance, together with the statement of Llave that

the labellum of his *Neottia micrantha* has a very thin undulated margin, makes me doubt whether that plant is to be referred to this species.

§ 2. SARCOGLOTTIS. *Sepala lateralia decurva. Labelli ascendentis lamina carnosa, deflexa, sepalis basi valdè productis multo brevior. Flores erecti.*

41. SPIRANTHES picta. *Lindl. Bot. Reg. t.* 823

S. foliis obovato-lanceolatis undulatis, scapo piloso, spicâ laxâ elongatâ, bracteis lineari-lanceolatis ovarii longitudine basi glabris, sepalis pilosis lateralibus infra medium ovarii decurrentibus, labello oblongo glabro basi sagittato apice deltoideo venoso.

a. foliis variegatis, petalis labello sepalisque intùs albis.

Neottia picta. *R. Brown, Hort. Kew.* 5. 199. *Bot. Mag. t.* 1562.
Neottia acaulis. *Smith, Exot. Bot.* 2. *t.* 105.

β. foliis ferè immaculatis, petalis labello sepalisque intùs herbaceis.

Spiranthes grandiflora. *Lindl. in Bot. Reg. t.* 1043.
Neottia grandiflora. *Hooker in Bot. Mag. t.* 2730.

Hab. in insulâ *Trinitatis,* Hortul. angl.; *β* in *Brasiliâ, Douglas, Guayana, Schomburgk. (v. v. c. et s. sp.)*

Of this plant I have seen but one bad wild specimen in the collection of Mr. Schomburgk. It has a stem about 2 feet high, and large green or variegated flowers, which, when in the state of a bud are extremely like the head of a bird. I cannot discover any sufficient mark of distinction between the two plants above quoted as varieties; for even in *S. grandiflora* there is a tendency to variegation in the leaves.

42. SPIRANTHES speciosa.

S. foliis obovato-lanceolatis, scapo glabro laxè vaginato, spicâ laxâ angustâ elongatâ, bracteis lanceolatis acuminatis inferioribus floribus æqualibus glabriusculis, sepalis subpilosis lateralibus infra medium ovarii decurrentibus, labello lineari sagittato medio piloso apice ovato.

Sarcoglottis speciosa. *Presl. reliq. Hænk.* 1. 96. *t.* 15.

Hab. in *Peruvia,* Hænke, *Mathews,* 1070. *(exam. s. sp. in hb. Hooker.)*

Very near *Sp. picta,* from which it differs in having larger and narrower leaves, a tuft of hair on the middle of the labellum, and large bracts. Presl's figure is very indifferent.

43. SPIRANTHES bonariensis.

S. foliis . . . . , vaginis scapi glabris laxis imbricatis acuminatis, spicâ oblongâ tomentosâ, bracteis lineari-lanceolatis acuminatis floribus æqualibus, sepalis petalisque villosis lateralibus in cornu gibboso brevi productis, labello spathulato concavo sub apice rotundato apiculato constricto.

Hab. in *Bonaria, Tweedie. (exam. s. sp. in hb. Hooker.)*

The specimen before me is rather more than a foot high. Flowers smaller than in *S. picta.* Anther terminated by a membranous rounded appendage. Rostellum long, truncated. The down of the inflorescence seems to have been brown.

44. Spiranthes hirta.

S. foliis lineari-lanceolatis longè petiolatis, vaginis scapi longis acuminatis patulis glabris inferioribus foliaceis, spicâ densâ elongatâ multiflorâ villosâ, bracteis linearibus acuminatis floribus longioribus, sepalis villosis lateralibus in cornu brevi gibboso productis, petalis nonnihil pubescentibus, labello oblongo plano obtuso basi sagittato et pubescente.

Hab. in *Peruvia;* in montibus Pariahuanca, *Mathews,* 1065. (*hab. s. sp.*)

A very fine species, of which the specimen before me is nearly two feet high, nine inches of which are occupied by a dense spike of hairy flowers, rather smaller than those of *Sp. speciosa.* The anther is terminated by a membranous rounded appendage. Rostellum long, truncated. Perhaps this and *S. bonariensis* may form a distinct section of this genus.

45. Spiranthes villosa. *Poppig* et *Endlich. n. g. et. sp.* 2. *p.* 8.

S. "labelli sepalis brevioris, spathulati, intus papillosi apice reniformi, dentato, emarginato, integro, sepalis superioribus infernè connatis, inferioribus falcatis; bracteis ovarium villosum adæquantibus, linearibus; spica piloso-pubescente; foliis longè petiolatis, oblongo-lanceolatis, acutis."

Hab in *Peruviæ* sylvis primævis, versus ostia fluminis Amazonum, ad pagum brasiliense Colares. Floret Julio. Stirps 2-2½ p. alta. Spica 6-7 pollices longa. Flores albi.

46. *Neottia longifolia;* foliis caulinis lineari-lanceolatis longissimis trinerviis pedunculo floribusque externe pubescentibus, labelli limbo acuminato reflexo, gynostemio ad apicem utrinque repando, stigmate lancellato. *Blume Bijdr. p.* 344.

Hab. in *Java* sylvis humidioribus montis Salak.

Species gigantea, 3-4 ped. altitudine. Bracteæ ovariis majores, lanceolatæ, acuminatæ, externè pubentes. Flores carnei. Labellum infernè ventricosum, gynostemium infernè amplectens, intùs verrucosum.

If this is a Spiranthes, which is doubtful, it would seem to belong to this section.

CCLXVIII. STENORHYNCHUS.

Stenorhyuchus. *Rick. orch. eur.* 37.

Flores ringentes, cylindracei. Sepala colorata basi gibba; dorsale petalis agglutinatum; lateralia labello supposita et basi in saccum connata. Labellum anticum, apice angustatum, basin versus dilatatum, columnam amplectens eique agglutinatum, basi ipsâ intùs sæpius biconvexum, callis orbatum. Columna teres, elongata, in pedem cui labellum annectitur extensa; stigmate prominente ovato; rostello subulato corneo persistente. Anthera dorsalis, acuminata, bilocularis; clinandrio utrinque marginato aut alato. Pollinia 2, pulverea, bipartita, glandulæ linearis ope colligata. ——— Herbæ terrestres, radicibus fasciculatis. Folia radicalia, rarò caulina, lata, nunc hysteranthia. Scapus laxè vaginatus. Spicæ imbri-

catæ, densæ, bracteis magnis coloratis. Flores sæpiùs pubescentes speciosi.

After much consideration I have determined upon regarding the plants referred to this genus as distinct from both Spiranthes and Pelexia. From the former they differ in their large showy flowers, great coloured bracts, and the want of calli at the base of the lip; from the latter in the former circumstance, and in their rostellum being peculiarly hard and horny, remaining as a rigid spine upon the apex of the stigma, after the pollen masses have fallen away. Moreover, the plants referred to Pelexia have a lip which is dilated, not contracted, at the end.

§ 1. *Sepalis lateralibus basi valdè productis.*

1. STENORHYNCHUS speciosus. *Rich. l. c.*

S. glaberrimus; foliis oblongo-lanceolatis apicem versus undulatis, squamis scapi imbricatis superioribus haud vaginantibus laxis lineari-lanceolatis acuminatis, bracteis acuminatis floribus multò longioribus, labello oblongo apice subulato canaliculato.

Neottia speciosa. *Jacq. ic.* 3. *t.* 600. *Swartz. fl. ind. occ.* 3. 1400. *Bot. Mag. t.* 1374. *Hooker Exot. Fl. t.* 3 & 4.
Ibidium speciosum. *Salisb. in Hort. Trans. I.* 291.

Hab. in *Americâ tropicâ,* præsertim insulis Indiæ occidentalis; in frutetis nemorosis montium altissimorum Jamaicæ australis, Swartz.

2. STENORHYNCHUS ? papulosus.

Neottia *papulosa;* foliis radicalibus lanceolatis; spicis laxis, perigoniis urceolatis, papulosis; labello calcarato. *Llave nov. veg.* 4.
Hab. in *Mexico,* prope Vallisoletum, florens Julio, Llave.

"Planta terrestris, gracillima: Radix tuberosa, fasciculata, tuberibus pendulis sublanatis. Caulis rubens, villosus, vix pedalis. Folia radicalia lanceolata, lineata: caulina breviora vaginantia. Flores alterni, spica laxa dispositi, bracteis rubris suffulti. Perigonium urceolatum, erectum, rubrum; laciniis linearibus connatis, extùs glandulis hyalinis indutis. Labellum concolor, papulosum, nectario vero calceiformi, ad basim tubulatum."

3. STENORYNCHUS australis.

S foliis . . . . , scapo basi glabro apice tomentoso, squamis omnibus vaginantibus remotis apice foliaceis, spicâ tomentosâ pyramidali densâ, bracteis lineari-lanceolatis ovario longioribus apice glabris, labello lanceolato acuminato medio utrinque piloso, sepalis tomentosis.

Hab. in *Brasilia australi,* ad Portum Alegre, in argillâ durâ ferrugineâ, *Tweedie.* (*hab. s. sp. comm. cel. Hooker.*)

Although closely akin to *S. orchioides,* this seems really distinct in its short pyramidal inflorescence, and especially in the form of its lip, which has a patch of hairiness near its middle, both on the outside and inside.

4. STENORHYNCHUS orchioides. *Richard, l. c.*

S. foliis hysteranthiis erectis oblongo-lanceolatis luridis subplicatis planis, squamis scapi pubescentis distantibus vaginantibus, spicâ oblongâ multi-

florâ, bracteis acuminatis ovario tomentoso nonnihil longioribus, labello obovato subcrenulato apice lanceolato canaliculato, sepalis glanduloso-pubescentibus.

Helleborine purpurea asphodeli radice. *Plum. ic.* 176. *t.* 181. *f.* 2.
Limodorum lanceolatum. *Aubl. guian.* 2. 821.
Satyrium orchioides. *Swartz, prodr.* 118.
Neottia orchioides. *Swartz. fl. ind. occ.* 3. 1411. *t.* 28. *f. a. b. Bot. Mag. t.* 1036.
Neottia lanceolata. *Willd. sp. pl.* 4. 75.
Neottia squamulosa. *Humb. Bonpl. et Kunth. n. g. et sp.* 1. 332. *t.* 71.
Ibidium crystalligerum. *Salisb. in Hort. Trans. I.* 292.

β ? *plantaginea ;* foliis longioribus solitariis (?), floribus viridi-roseis sepalo dorsali minùs gibboso, cornu longiore, ovario angustiore.

Neottia plantaginea. *Hooker Exot. fl. t.* 226.

Hab. in *Americâ tropicâ ;* aridissimis campis graminosis Jamaicæ, Swartz, *Distin ;* in Stæ. Luciæ insula, *Anderson ;* vallibus montanis Demeraræ, flumini Rupununy adjacentibus, sub gradu lat. bor. 3. inter gramina, *Schomburgk ;* Brasiliæ locis variis, *Martius ;* regno Novo Granatensi, Humb. et Bonpl. β in insulâ Trinitatis, De Schach. (*v. v. c. et hab. s. sp.*)

A plant common in our hothouses, where it is remarkable for flowering earlier than the leaves appear. Whether or not the *Neottia plantaginea* of Hooker is really distinct, I am unable to judge ; for specimens have never fallen in my way. I fear, however, it is a mere variety ; for, in the first place, there is no specific mark of distinction to be discovered in either the plate or description given in the Exotic Flora ; and, secondly, the species appears to be variable. In the gardens it has rich salmon-coloured flowers ; in Demerara they appear, from Mr. Schomburgk's observations, to be the brightest rose ; and Swartz describes them to be dirty yellow (sordidè lutei) in Jamaica. The very indifferent figure in the Botanical Magazine represents the spike as more lax than I have seen it, and the ill-drawn flowers are a caricature ; in reality the inflorescence is much more compact, and that of the specimens from Demerara is quite as compact as is represented in *N. plantaginea.* Perhaps, however, 2 or 3 different species are confounded by me under *St. orchioides ;* if so, I have no means of distinguishing them from each other. In the herbarium of Dr. Von Martius are specimens in flower with leaves attached to them, from the province of Minas Geraes.

5. Stenorhynchus aphyllus.

Neottia *aphylla ;* scapo bracteato supernè floribusque pubescenti-glandulosis, perianthii laciniis tribus exterioribus lineari-acuminatis rectiusculis basi in calcare brevi obtusissimo productis. *Hooker in Bot. Mag. t.* 2797.

Hab. in insulis *Trinitatis* et *Sti. Vincentii*, Hooker.

In this I find nothing satisfactory to divide it from *S. orchioides* except the labellum, which is figured and represented as linear oblong, and which is certainly much more broad and obtuse than I have ever seen it in that species. The plant is said to be entirely leafless, not producing foliage even in cultivation, and to have a singularly lurid reddish green colour.

§ 2. Bivesica. *Sepalis lateralibus basi parùm productis. Labello basi biconvexo.*

6. Stenorhynchus sulphureus.

Neottia *sulphurea,* foliis radicalibus lanceolatis ; spicis secundis ; floribus

confertis; perigoniis hiantibus tomentosis; labello acuto, intus lanuginoso. *Llave nov. veg.* 4.

Hab. in *Mexico,* cum præcedentibus, autumno florens, Llave.

"Planta sesquipedalis, tristis aspectu. Radix tuberoso-fasciculata ut in congeneribus. Caulis cylindricus pallido-virescens, articulatus. Folia radicalia lanceolata, glauca, vaginantia, nervosa, nerviis parallelis. Squamulæ caulinæ membranaceæ, amplexicaules, alternæ, marcescentes. Spica florum oblonga, secunda; floribus confertis sensu diverso contortis. Bracteæ membranaceæ, acutæ, nervosæ, apice nigricantes. Perigonium urceolatum, hians, sulphurei coloris, tomentosum; laciniis nerviis longitudinalibus virescentibus lineatis, labellum concolor tomento lanuginoso intus ad basin vestitum."

7. STENORHYNCHUS lupulinus.

S. foliis . . . , scapo basi glabro apice pubescente, squamis omnibus vaginantibus cucullatis obtusis imbricatis glabris, spicâ oblongâ lupulinâ, bracteis oblongo-lanceolatis basi villosis floribus elongato-conicis multo longioribus, ovario obovato villosissimo sepalis villosis bis breviore, petalis pilosis, labello ovato-lanceolato acuminato obtuso intùs pubescente basi biconvexo glabro.

Hab. in *Mexico,* ad Chapultepec, *Karwinski* (*exam. s. sp. in hb. reg. monac.*)

Apparently a very handsome plant. The stem before me is a foot high, and covered with ventricose leafy imbricated sheaths; the bracts are 3 inches long and an inch broad, and have been of some bright colour, probably pink; they are so large as to form a spike like a head of hops, within which the flowers are concealed.

8. STENORHYNCHUS aurantiacus.

S. caule folioso glabro, foliis oblongis basi vaginantibus, spicâ oblongâ multiflorâ, bracteis oblongis concavis dorso villosis floribus elongatis parùm longioribus, ovario obovato sepalis villosissimis multò breviore, labello lineari-lanceolato extùs tomentoso apice undulato carnoso obtuso medio et supra basin constricto intùs basin versus leviter pubescente basi biconvexo.

Neottia aurantiaca. *Llave nov. veg. p.* 2.

β. bracteis dorso glabris.

Hab. in *Mexico*; in montibus prope Vallisoletum, Llave, Totontopeque, *Hartweg*; β in *Guatemala, Skinner.* (*hab. s. sp.*)

A beautiful species with leafy stems 2 feet high. The spike of flowers is from 3 to 4 inches long, and the flowers themselves as well as the bracts are stated to be yellow. The plant from Guatemala, for which I am indebted to Mr. Bateman, is said by Mr. Skinner to be tuberous; and is remarkable for the bracts being nearly smooth instead of shaggy.

9. STENORHYNCHUS cinnabarinus.

Neottia *cinnabarina,* foliis omnibus lanceolatis; spicis conico-thyrsoideis, compactis; perigoniis urceolatis subtomentosis; labello erecto, apice reflexo. *Llave nov. veg. p.* 3.

Hab. in *Mexico,* prope Irapæum, alibique; vernacule *Cutsis,* Llave.

"Planta bi-aut tripedalis, terrestris, elegantissima. Radix tuberculis crassioribus pendulis, fasciculatis, fœtidis. Caulis cylindraceus, pallido-rubens, articulationibus vaginulis foliorum tectis. Folia lanceolata, lineata, vaginantia, sensim breviora, acuta. Flores spicati, terminales. Spica conica thyrsoidea, spiraliter torta. Bracteæ coloratæ, subtomentosæ, acutæ, perigonio breviores. Perigonium croceo-carneum, urceolatum, gracile, incurvum, parum pubescens, laciniis intùs lutescentibus approximatis, apice reflexis. Labellum concolor."

10. STENORHYNCHUS Michuacanus.

Neottia *Michuacana,* foliis ensiformibus nervosis; spicis secundis lanatis; perigoniis ringentibus subtomentosis; labello subhastato, venoso. *Llave nov. veg.* 3.

Hab. in *Mexico,* juxta Vallisoletum, præcipuè versus Jesus-del-Monte, Llave.

"Planta lanata, bipedalis, terrestris, odoratissima. Caulis teres, striatus, erectus, vaginulis foliorum omnino tectus. Folia radicalia ensiformia, nervosa, lævigata, vaginantia: caulina lanceolata, alterna, gradatim minora. Flores thyrsoidei, fragrantissimi, spica secunda lana argentea densè induta, dispositi. Bracteæ longitudine florum, basi carnosæ, amplexicaules, nervosæ, acuminatæ, marcescentes. Perigonium luteum, ringens, extùs parum tomentosum, laciniis 3 superioribus connatis, duabus lateralibus liberis, obliquis; omnibus lineis longitudinalibus nigricantibus variegatis, apice reflexis. Labellum concolor, subhastatum, carinatum, venosum, intùs basi lanatum, reflexum. Gynostemium breve. Anthera sagittata 2-locularis postica. Pollen farinaceum, lamellis quatuor sectum. Ovarium contortum, extùs lana tectum."

CCLXIX. SAUROGLOSSUM.

Sauroglossum. *Lindl. in Bot. Reg. t.* 1618. *Endlich. gen. no.* 1555.

Perianthium ringens. Sepala lateralia linearia, basi in ovarium nonnihil decurrentia, arcuatìm patentia, apice inflexa; dorsale petalis agglutinatum. Labellum anticum, lineare, canaliculatum, basi et apice dilatatum, ecallosum, omninò liberum sed columnæ adpressum. Columna elongata, semiteres, basi producta; stigmate triangulari, semper indiviso, plano, labelli apici simili. Anthera ovata, sessilis, dorsalis; clinandrio immarginato. Pollinia 2, biloba, pulverea, caudiculâ brevissimâ, glandulâ minutâ.——— Herba terrestris Brasiliensis, radicibus fasciculatis. Folia radicalia membranacea, Orchidis texturâ. Flores spicati, herbacei, densissimi.

This genus is nearly allied to Pelexia; but is I think sufficiently distinguished, not only by the incurved lateral sepals, but also by the very long column, the triangular stigma which is not fissile, and the narrow labellum which does not adhere to the column, and is not cucullate in any degree.

1. SAUROGLOSSUM elatum. *Lindl. in Bot. Reg. t.* 1618.

Hab. in *Brasilia australi, Tweedie. (exam. s. sp. in hb. Hooker et v. v. c.)*

Radices terrestres, fasciculatæ, carnosæ. Folia radicalia oblongo-lanceolata, suberecta, carnosa, plicis nullis, scapo 3-plò breviora. Scapus strictus, ferè 2-pedalis, pubescens, squamis foliaceis viridibus distantibus vaginatus. Racemus pedalis et ultra, densus, cylindraceus. Bracteæ canaliculatæ, subulatæ, florum ferè longitudine. Ovarium pubescens. Perianthium cylindraceo-convolutum, sepalis viridibus lineari-lanceolatis, versus apicem latioribus, superiori petalis agglutinato, lateralibus arcuatis, basi valdè obliquis, anticè paululùm sub labello connatis. Labellum album, cum columna parallelum, lineare, canaliculatum, sessile, basi ecallosum, paulò dilatatum, medio pubescens, apice ovatum, dilatatum. Columna libera, elongata, semiteres, anticè producta, apice ovata, stigmate cordiformi, rostello acuto, vix bifido, clinandrio retrorsùm declivi, immarginato. Pollinia 2, bisulca, pulverea, caudiculâ brevi, glandulâ ovali.

CCLXX. PELEXIA.

Pelexia. *Poit. MSS. Richard, orch. eur.* 37. *Endl. gen. no.* 1554.——Synassa. *Lindl. in Bot. Reg.* 1618. *Endl. no.* 1564.

Perianthium ringens. Sepala lateralia labello supposita, patula, basi in cornu adnato aut libero decurrentia, discreta v. demum in saccum connata; dorsale cum petalis agglutinatum. Labellum canaliculatum, columnâ parallelum, basi unguiculatum, ungue intra sepalorum lateralium bases incluso, ecalloso. Columna nana, teres; rostello indiviso, acuminato, nunc in setam corneam producto. Anthera dorsalis, sessilis, bilocularis, apiculata. Pollinia 2, pulverea; glandulâ separabili, rostellum haud findente.——Herbæ terrestres, Americæ calidioris, leviter pubescentes, radicibus fasciculatis. Folia oblonga, longè petiolata. Scapus terminalis. Flores spicati, distantes, herbacei; bracteis longis acuminatis.

This genus differs from Stenorhynchus in its membranous rostellum, and in little besides; and might perhaps be best considered a section of that genus. Its habit is however more that of *Spiranthes*, and the species are easily recognized; for the horn into which the sepals and lip are combined is more conspicuous in this genus than in Stenorhynchus.

Upon reconsideration of the genus formerly proposed by me under the name of *Synassa*, I see that it must be united with Pelexia.

A. Eupelexiæ; *cornu omnino adnato.*

1. Pelexia spiranthoides. *Lindl. in Bot. Reg. t.* 985.

P. foliis ovato-lanceolatis subundulatis petiolo brevioribus, spicâ elongatâ multiflorâ laxâ, bracteis membranaceis lanceolatis acuminatis patulis floribus longioribus, sepalis acutis lateralibus dependentibus, labello apice rotundato apiculato emarginato 2-lamellato, cornu adnato sepalis parum longiore.

Satyrium adnatum. *Swartz. prodr.* 118.
Neottia adnata. *Id. fl. Ind. occ. p.* 1409.

Hab. in *Jamaicæ* et *Hispaniolæ* sylvis interioribus umbrosis, Swartz; nec non in *St. Vincentii, Macrae.* (*v. v. c.*)

Scape about a foot high. Flowers green, small, with a white labellum stained with yellow in the middle.

2. PELEXIA corymbosa.

P. foliis . . . . ., scapo pubescente squamis acuminatis distanter vaginato, corymbo capitato, bracteis ovatis acuminatis ovario elongato brevioribus, sepalis petalisque linearibus acutis basi angustatis lateralibus in cornu ovarii dimidiâ brevius decurrentibus, labello glabro columnæ arctè agglutinato; basi lineari sursùm dilatato cucullato apice ovato crispo.

Synassa corymbosa. *Lindl. l. c.*

Hab. in *Peruvia, Pavon.* (*hab. s. sp. comm. cel. Lambert.*)

I have only seen a head of flowers and about 4 inches of the upper part of the scape of this plant, which is strikingly different from Neotteæ in general, in its half corymbose half capitate inflorescence. A second examination, with additional experience in the manner of dissecting the dried remains of these delicate flowers, has taught me that the labellum is merely glued to the column in this plant and not organically united with it. There is therefore no character to divide it from Pelexia.

3. PELEXIA ? laxa.

P. "labello basi attenuata adnato, canaliculato, lanceolato, acuto, sepala æquante; sepalis inferioribus basi saccata coalitis, superioribus puberulis; bracteis flore brevioribus; spica secunda, laxa; foliis longe petiolatis, ellipticis, acutis.

Stenorhynchus laxus. *Poppig.* et *Endlicher, n. g. et sp.* 2. 7. *t.* 109.

Hab. in sylvis primævis *Peruviæ* orientalis ad missionem Tocache. Floret Julio, Poppig.

Herba pedalis. Flores rubri.

B. Calcaratæ; *cornu semilibero.*

4. PELEXIA setacea.

P. foliis ovalibus petiolis duplo brevioribus, spicâ multiflorâ, bracteis lineari-lanceolatis setaceo-acuminatis ovario longioribus, sepalis lineari-lanceolatis in apicem setaceum elongatum productis, labello lanceolato fimbriato sepalis breviore, cornu filiformi acuminato semilibero sepalis breviore, rostello corneo setaceo persistente.

Neottia calcarata. *Bot. Mag. t.* 3403.

Hab. in *Brasilia*; ad Rio Doce, et in Sylvis ad Mandioccam, *Pr. Max. Wiedens.*; (*hab. s. sp. et v. v. s. in hb. reg. monac*)

A leaf before me is 6 inches long, nine nerved, with a petiole a foot long. The scape is slightly downy, 1 to 2 feet high with a long loose spike. The lateral sepals are more than 2 inches long, and drawn into a very fine bristle-like point. The *Neottia calcarata* of the Botanical Magazine, said to be from Jamaica, is certainly this Brasilian plant, and is very different from that of Swartz.

5. PELEXIA domingensis.

P. foliis ellipticis petiolis brevioribus, spicâ pauciflorâ, bracteis linearibus lanceolatis florum longitudine, sepalis petalisque lineari-lanceolatis

lateralibus apice patulis, labello lanceolato acuminato integerrimo, cornu libero acuminato leviter inflexo.

Neottia calcarata. *Swartz. Fl. Ind. occ.* 1413. *t.* 28. *fig. c.*

Hab. in *Hispaniola,* in sylvis nemorosis montium, Swartz.

This plant I have no where met with. It evidently differs from *P. triloba* in its long bracts, undivided labellum, and short few flowered spike, and from *P. setacea* as is explained under that species. It is to be observed that the references made by Swartz. at p. 1399 to the figures of Neottias at t. 28 are evidently erroneous, and that fig *c.* not *f.* belongs to this plant.

6. Pelexia triloba.

P. foliis oblongis acutis petiolo brevioribus, spicâ elongatâ laxâ multiflorâ, bracteis lineari-lanceolatis adpressis floribus brevioribus, sepalis acutis lateralibus recurvis, labello apice trilobo laciniâ intermediâ lanceolatâ acutâ reflexâ, cornu semilibero sepalis ferè duplò longiore.

Hab. in *Americâ tropicâ.* (*v. v. c.*)

I have often received this plant from garden collectors, but never with any intimation of its native country, which, however, is no doubt tropical America. The stem is from 3 to 4 feet high with a long loose spike of green flowers which are about as long as the intervals that separate them.

Division IV. PHYSURIDÆ.

CCLXXI. PLEXAURE.

Plexaure. *Endl. fl. norf. prodr.* 30. *gen.* 1550.

Sepala lateralia labello supposita, basi obliqua, patentia; dorsale fornicatum. Petala breviora, subunguiculata, falcata, ascendentia. Labellum ungue c. pede columnæ connatum, porrectum, saccatum; apice reflexum. Columna nana. Anthera terminalis, stipitata, bilocularis, rostello lamellari apice bidentato incumbens. Pollinia 8, caudiculæ communi affixa.———Herba pusilla in insula Norfolk indigena; radicibus fibroso-fasciculatis. Folia equitantia, lineari-lanceolata, carnosula. Scapus teretiusculus, squamatus. Flores densè spicati, minimi. *Ex Endlichero.*

In his Prodromus Endlicher says this genus is next to Spiranthes; but in his Genera, although he places it in Neotteæ, he regards its affinity as doubtful. Does it not rather belong to Malaxideæ?

1. Plexaure limenophylax. *Endl. l. c.*

Hab. in insula *Norfolk,* ad sinum Ansonis, mense Decembri florens; F. Bauer.

Herba digitalis, cæspitosa. Folia 5-7, equitantia, carnosula, lineari-lanceolata, 3 poll. longa, 2 lin. lata, apice falcatim subrecurva, basibus dilatatis 4 lineas longis striatis discoloribus sese amplectentia. Pseudo-scapus spicatus, foliis nonnihil brevior. Flores inconspicui minimi,

granum miliaceum vix æquantes, bracteis duplò ferè breviores; ex *Endlichero.*

CCLXXII. CHLOIDIA.

Perianthium ringens. Sepalum dorsale liberum, sejunctum; lateralia basi æqualia, cum petalis liberis conformibus labello supposita. Labellum liberum, sessile, lineare, columnâ parallelum, ecallosum, acuminatum. Columna elongata, semiteres, basi nonnihil producta; stigmate ovato, rostello acuminato demum fisso. Anthera acuminata, dorsalis; clinandrio utrinque dentato.———Herbæ ramosæ, terrestres, caulescentes, glabræ, Americæ equatorialis. Folia rigida, vaginantia, plicata, arundinacea. Racemi compositi, multiflori, axillares et terminales. Flores secundi, nutantes, colorati, trigoni, bracteis minutis, ovario elongato.

These plants have the habit of a branching grass rather than of an Orchidaceous plant, and may be compared to that of Evelyna in Epidendreæ, or of Sobralia in Arethuseæ. They afford the only known example of a branching inflorescence among the Neotteous tribe.

1. Chloidia decumbens.

C. bracteis ovatis acutis basi cucullatis ovario lineari pluriès brevioribus, labello basi concavo apice acuminato canaliculato subcrispo et carnoso petalorum longitudine.

Neottia flava. *Swartz. fl. Ind. occ. p.* 1417. ?
Serapias flava. *Swartz. prodr.* 119. ?

Hab in *Brasilia*; in Mato Virgine ad faz. Guidowald, *Martius*; necnon in sylvis paludosis montium *Jamaicæ*, Januario florens Swartz. ? (*exam. s. sp. in hb. reg. Berol.*)

Caulis decumbens, 2-3-pedalis, teres, angulato-flexuosus; radicibus fasciculatis præditus. Folia alta, duriuscula, plicata, lanceolata, acuminata. Panicula racemorum alternorum floribus erecto-secundis. Bracteæ inferiores lanceolatæ, superiores ovatæ. Flores trigoni. Sepala flava, lanceolata, medio dorso elevato. Petala alba, lanceolata, acuta, dorso acuto flavo (magis oblanceolata quam sepala). Labellum lanceolatum, acutiusculum, laminæ margine subundulato. *Martius MSS.*

I am uncertain whether this plant is the same as Swartz's *Neottia flava.* So far as the description given by that author is concerned, there is no material discrepancy; except that he says the leaves of his plant are 2 or 3 feet long. Here they are not a foot in length. But if the stem of *N. flava* is erect, and the petals of the same colour as the sepals, as seems to be implied, then it is probable that the West Indian plant forms a distinct species.

2. Chloidia vernalis.

C. bracteis minutis linearibus, labello ovato plano apice recurvato basi ventricoso petalis breviore.

Serapias polystachya. *Swartz. prodr.* 119.
Neottia polystachya. *Swartz. fl. Ind. occ. p.* 1415.

Hab. in sylvis montium altissimorum *Jamaicæ*, Clarendon dictorum, solo depresso sterili, primo vere florens *Swartz.* (*v. s. sp. herb. in Banks.*)

Stem 2 or 3 feet high, branching near the base; with knee-jointed angular branches the thickness of wheat straw. Leaves erect, tapering to each end, a foot long, with 5-7 veins more distinct than the others. Raceme terminal compound; each branch having 5-7 pale red nodding flowers. Two lateral sepals lanceolate, nearly erect, with an anterior projecting angle. Labellum recurved, purple at the point.

CCLXXIII. ZEUXINE.

Zeuxine. *Lindl. orch. scel. no.* 18. *Id. Bot. Reg. sub fol.* 1618. *Endlich. gen. no.* 1577. ———Adenostylis. *Blume. Bijdr.* 414. non Cass. *Endlich. gen. no.* 1548.——— Cionisaccus. *Kuhl. et Hasselt Orch. ed. Breda. t.* 8. fide Endlich.

Perianthium ringens. Sepala lateralia labello supposita, libera, rarò connata; dorsale basi convexum cum petalis agglutinatum. Labellum basi ventricosum, columnæ connatum, intùs bicallosum; limbo indiviso, sepalis breviore, sæpè carnoso. Columna brevis, teres, nunc utroque latere glanduloso-tumida (an semper?). Anthera dorsalis, bilocularis; clinandrio sæpiùs membranaceo-marginato. Pollinia granulosa, 2, biloba, caudiculâ communi (6, caudiculâ duplici in ic. Hamilt).———Herbæ terrestres, caulescentes, Indiæ orientalis. Folia linearia, per omnem caulem sparsa. Spica terminalis, sessilis inter folia, vel vix pedunculata. Flores Goodyeræ.

The plants collected together under this genus form two tolerably well defined groups, which may perhaps be regarded as genera when increased by new species, and when the true structure of their column has been determined by the examination of fresh specimens. I find it impossible at present to satisfy myself upon this point in consequence of the crushed state of the parts, which cannot be restored to their original form.

§. 1. Euzeuxine. *Sepala lateralia connata, dorsale basi saccatum.*

1. Zeuxine sulcata. *Lindl. l. c.*

Z. foliis lineari-lanceolatis acuminatis aggregatis cauli æqualibus, spicâ densâ subsessili, labello apice reniformi.

Pterygodium sulcatum. *Roxb. fl. Ind.* 3. 452.

Hab. in *Bengalia;* in pascuis juxta Calcuttam, Roxburgh, *Wallich. (hab. s. sp. et v. ic. pict.)*

Planta tota humilis 4-8 poll. alta. Folia linearia, acuminata, imbricata, scapo æqualia. Spica densa oblonga, squamis magnis imbricatis quasi involucrata. Flores albi, parvi. Labellum membranaceum medio bicallosum, margine denticulatum, apice carnosum reniforme concavum.

According to Roxburgh this plant is called *Shwet Hoolee* in Bengal, and he says that a red and blue kind are reported to exist, neither of which he had seen.

§. 2. Cionisaccus. *Sepala libera, dorsale basi convexum.*

2. Zeuxine emarginata.

Z. foliis linearibus acutis per caulem sparsis, spicâ densâ subsessili, labello apice dilatato emarginato.

Adenostylis emarginata. *Blume. Bijdr. l. c.?*
Corycium? humile. *Hamilt. ic.*

Hab. in *Indiæ* peninsula, Hamilton; *Zeylona Macrae; Javæ* calcareis, Blume? (*v. ic. pict. et h. s. sp.*)

An erect plant, with reddish stems, from 3 inches to more than a foot in height, quite covered with narrow acute equidistant leaves. The flowers are in dense oblong terminal spikes, very little, if at all, elevated above the leaves; they are white with a bright yellow, channeled, fleshy, emarginate lip. Dr. Hamilton's figure, at the India House, represents two long separable caudiculæ to this plant and 6 pollen masses, a point I cannot verify by my Cingalese specimens, the only ones I have seen.

3. Zeuxine membranacea.

Z. caule elongato, foliis linearibus distantibus apiculatis reticulatis, spicâ pedunculatâ cylindraceâ imbricatâ, labello membranaceo apice oblato apiculato.

Hab. in *Indiæ orientalis* provinciâ Bootan, *Griffith* in herb. Ind. no. 16. (*hab. s. sp. comm. cel. cæt. merc. Ind.*)

Stem from 9 to 12 inches high, regularly clothed with narrow reticulated leaves. Spike very dense, cylindrical, covered with small white flowers.

4. Zeuxine goodyeroides.

Z. foliis ovato-lanceolatis petiolatis medio pallidis, scapi vaginis 2 distantibus petaloideis acuminatis, spicâ rarâ pubescente, sepalis lateralibus patentissimis, labelli laminâ membranaceâ subrotundâ.

Hab. in *Indiâ orientali,* verosimiliter regno Assamico, *Griffith in herb. ind. misc. no. 7*. (*hab. s. sp. comm. cel. cæt. Ind. merc.*)

A delicate plant, about 6 inches high, with the habit of a Goodyera. The bracts are pink, membranous, and nearly as long as the flowers, which are pink in the sepals and white in the petals and lip.

5. Zeuxine integerrima.

Z. "labelli limbo integerrimo."

Adenostylis integerrima. *Blume. l. c. t.* 17.

Hab in *Java,* montanis Gede, florens Maio, Blume.

CCLXXIV. MONOCHILUS.

Monochilus. *Wallich. MSS.*

Perianthium conicum, connivens. Sepala lateralia libera, labello supposita, dorsale petalis agglutinatum. Labellum columnâ connatum, basi ventricosum, intùs callosum, limbo membranaceo, explanato, fisso, sepalis multò longiore. Columna brevis teres, nunc utroque latere glanduloso-tumida, (an semper?) Anthera dorsalis, bilocularis; clinandrio marginato. Pollinia granulosa, 2, biloba, glandulâ et caudiculâ communibus. ———Herbæ Indicæ, Goodyeræ facie.

This genus differs from *Anæctochilus* in the absence of a spur, and in the adhesion of the lip with the column; from *Zeuxine* in its long membranous split lip, and from Cheirostylis in its sepals being disunited, its labellum adherent, and its column apparently destitute of finger-like processes.

1. MONOCHILUS regium.

M. caule glabro, foliis ovato-lanceolatis acuminatis breviter petiolatis secus medium pallidis margine atroviridibus, scapi pilosi squamis 2 distantibus inferiore apice foliaceâ, spicâ laxâ pauciflorâ secundâ, bracteis acuminatis ovarii villosi longitudine, sepalis basi villosis dorsali apice recurvo petaloideo, petalis crispis, labelli sepalis parùm longioris laciniis rotundatis crenatis.

Iri Rajah *Zeylonensium.*

Hab. in *Zeylona;* sylvis humidis obscuris, Novembre florens, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

This plant is called in Ceylon Iri Rajah, or Striped King of the woods. It has narrow lanceolate leaves, pale lilac along the middle, but surrounded with a broad deep green border. The scape is a span high, the flowers white and green.

2. MONOCHILUS flavum. *Wallich MSS.*

M. caule erecto glabro, foliis lineari-lanceolatis acuminatis sessilibus enerviis, scapo pubescente squamâ unâ alterâve acuminatâ instructo, spicâ secundâ multiflorâ, sepalis petalisque ovatis obtusis, labelli laciniis oblongis integris, callis duobus.

Etæria flava. *Lindl. in Wall. Cat.* 7380.

Hab. in *Napalia, Wallich.* (*hab. s. sp. et v. ic. pict.*)

Flowers yellow in a one-sided spike from 3 to 4 inches long.

3. MONOCHILUS nervosum. *Wallich MSS.*

M. caule erecto glabro, foliis ovatis nervosis abruptè petiolatis: vaginâ brevi laxâ membranaceâ, scapo elongato piloso squamulis 1-2 longè distantibus, spicâ laxâ pauciflorâ, sepalis ovatis herbaceis acutis basi pilosis, petalis apice rotundatis, labelli laciniis brevibus cuneatis integerrimis planis: callis utrinque tribus.

Etæria nervosa. *Lind. in Wall. cat.* 7381.

Hab. in *India orientali,* Hamilton, *Wallich.* (*hab. s. sp. et v. ic. pict.*)

The leaves are distinctly ribbed and netted, and are from an inch to an inch and half long. The scape is nearly naked, clothed with long soft spreading hairs, and is about 6 inches high. The flowers are green with white petals and labellum.

4. MONOCHILUS longilabre.

M. caule glanduloso-piloso, foliis subbinis ovatis acutis undulatis breviter petiolatis, scapi vaginis 3 acuminatis distantibus patulis, spicâ pauciflorâ, bracteis ovatis acutis ovario hirsuto brevioribus, sepalis hirsutis ovatis acutis, petalis obtusis, labelli laciniis elongatis margine exteriore utrinque unidentato.

Hab. in *Zeylonâ;* pascuis ad latera montium, Julio, *Macrae.* (*hab. s. sp. et v. ic. pict.*)

Flowers white, with green sepals, rather large.

5. MONOCHILUS affine.

M. caule piloso, foliis ovatis trinerviis breviter petiolatis, scapo medio vaginato, spicâ secundâ pauciflorâ, bracteis subrotundis cucullatis acumi-

natis membranaceis pilosis ovarii arachnoidei longitudine, sepalis ovatis acutis, petalis apice rotundatis, labelli laciniis oblongis grossè crenatis, callis binis subulatis involutis.

Etæria affinis. *Lindl. in Wall. cat. no.* 7383.

Hab. in regno *Burmano, Wallich*; Courtallum, *Wight*, 1030. (*hab. s. sp.*)

CCLXXV. CHEIROSTYLIS.

Cheirostylis. *Blume Bijdr.* 413. *Endlich. gen. no.* 1571.

Flores ringentes. Sepala omnia connata, lateralia labello supposita. Petala sepalo dorsali agglutinata. Labellum liberum, fissum, basi carinatum, intùs bicallosum. Columna erecta, teres, libera, processibus s. brachiis 2, liberis aut adnatis, erectis aut porrectis a fronte aucta. Stigma bipartitum. Anthera dorsalis acuminata. Pollinia 4, pulverea, glandulæ lineari acutæ adnata.——Herbæ Indiæ orientalis terrestres, pusillæ. Folia petiolata, ovata. Scapus distanter vaginatus. Spicæ paucifloræ.

The processes in front of the column of this genus, which are apparently the supplementary stigmata, are remarkable, and distinguish it well from the neighbouring genera. Exclusive of this it differs from Monochilus in its free labellum and united sepals.

1. Cheirostylis montana. *Blume, l. c. t.* 16

Hab. in *Java*; locis umbrosis ad montem Parang, Provinciæ Tjanjor, Blume.

Herba habitu ferè Anæctochili. Caulis remotè trifoliatus, supernè pubescens, et bracteis præter florales 3-4 instructus. Folia lanceolata, nervosa, membranacea. Flores sessiles parvi albidi. Labelli laciniæ cuneatæ apice crispæ. Columna brachiis porrectis apice acutis; ex Blume.

2. Cheirostylis parvifolia. *Lindl. in Bot. Reg.* 1839, *misc.* 20.

C. foliis petiolatis ovatis acutis undulatis, floribus pilosis, labelli apice subrotundo 4-dentato callis baseos bipartitis, columnâ minimâ brachiis rectis liberis ipsi æqualibus.

Hab. in *Zeylona*; *Loddiges. (v. v. c.)*

Herba tenera, zeylanica, 3-pollicaris; caule stricto, tereti, retrorsum piloso apice nudo bracteato. Folia 4, distantia, supernè sensim minora; vaginata, glabra, ultra vaginam petiolata; limbo ovato, undulato, acuto, rubro-viridi, 4 lineas longo. Flores 3, terminales, minuti, albi, pedicellati, corymbosi; bracteis linearibus acuminatis rufis, pedicellis longioribus. Ovarium obpyramidale, piloso-glandulosum. Sepala clausa, ultra medium connata, glabra, basi paulo ventricosa, obtusiuscula, apice virentia. Petala retrorsum falcata, retusa, sepalo supremo agglutinata. Labellum sepalis parum longius, liberum, canaliculatum, versus apicem constrictum, apice subrotundum, concavum, bilobum: lobis lateralibus emarginatis; callis baseos incurvis, lucidis, subvirentibus, bipartitis. Ante columnam processus duo, liberi, erecti, carnosi, stigmatis longitudine, eique omninò paralleli. Columna minima, libera, basi labelli ferè

ubdita, stigmate bipartito. Pollinia 4, pulverea, glandulæ lineari acutæ inter brachia stigmatis prominenti, agglutinata.

3. Cheirostylis pusilla.

C. foliis ovatis aristato-acuminatis, floribus glaberrimis, labelli laciniis oblongis apice dentatis, petalis unguiculatis apice rhombeis, columnæ brachiis ascendentibus adnatis.

Hab. in montes *Sylhet*, inter muscos, *Wallich.* (*hab. s. sp.*)

A very small plant, scarcely more than an inch and half high. Leaves about 2 lines long. Flowers in pairs.

CCLXXVI. MYODA.

Myoda. *Lindl. in Bot. Reg. sub fol.* 1618. *Endlicher gen.* 1570.

Perianthium reflexum, petalis sepalo superiori agglutinatis. Labellum anticum, cum columnâ connatum, apice unguiculatum, hastato-tripartitum. Columna teres, clavata, clinandrio carnoso cucullato, rostello acuminato obliquo. Stigma punctum parvum, bilabiatum. Anthera ovata. Pollinia 2.———Herba caulescens. Folia ovalia, petiolata, vaginantia. Scapus vaginatus. Spica multiflora.

This curious genus agrees with Hæmaria and Macodes in having the column twisted obliquely; but it differs from them both in having an elongated column to which the labellum is joined by its whole length, and a very minute stigma, which is little more than a thick-edged perforation in the face of the broad membranous front of the column.

1. Myoda rufescens. *Lindl. in Wall. Cat. no.* 7390.

Hab. in *Penang, Wallich.* (*hab. s. sp.*)

Herba spithamæa, ascendens. Folia pube tenui mollia, plusquam bipollicaria, basi angustata. Scapus pubescens. Vaginæ 3, membranaceæ, acuminatæ. Bracteæ coloratæ, acuminatæ, patulæ, glabræ, ovarii tomentosi longitudine. Flores albi glabri. Labellum cum columna connatum, basi subcalcaratum: limbo trilobo, unguiculato; lobis planis patentibus, intermedio angustiore, ungue cordato medio carnoso. Columna teres, apice valde dilatata, concava, (s. cucullata), intra cavitatem abscondens antheram more Neottearum; apice rostrata emarginata. Stigma in mediâ facie columnæ, e regione antheræ, carnosum, prominens, bilabiatum, labio inferiore sæpius involuto. Anthera cordata 2-loc. intra clinandrium in initio abscondita, mox erecta et magis conspicua.

CCLXXVII. HÆMARIA.

Hæmaria. *Lindl. orch. scelet. Endlich. gen. no.* 1560.

Perianthium explanatum, sepalis petaloideis; lateralibus reflexis. Labellum liberum, anticum, basi bicallosum, saccatum, didymum, apice obliquum, unguiculatum, subsagittatum, planum. Columna teres, clavata, cli-

nandrio carnoso, cucullato, obliquè torto, rostello acuminato. Anthera bilocularis, acuminata, clinandrii cucullo semioccultata. Pollinia 2, sulcata.———Herba perennis, decumbens, foliis coriaceis marginatis glabris. Scapus erectus, squamatus, seu vaginatus. Spica multiflora. Flores albi.

1. HÆMARIA discolor.

Goodyera discolor. *Ker. in Bot. Reg. fol.* 271.

Hab. verosimiliter in *China,* nec Brasilia, ut aiunt hortulani (*v. v. c.*)

A caulescent herbaceous plant, with stout deep purple stems, and thick deep green leaves, rich purplish brown on the under side. Scales and bracts purple. Flowers white, with a large deep yellow anther.

CCLXXVIII. HYLOPHILA.

Hylophila. *Lindl. in Bot. Reg. sub fol.* 1618. *Endlich. gen. no.* 1561.

Perianthium connivens. Sepalum supremum galeatum, lateralia obliquè recurva. Labellum nanum, anticum, liberum, saccatum, dependens, apiculatum. Columna brevissima, clinandrio proclivi, rostello curvo subulato. Anthera incumbens subulata. Pollinia 2, caudiculâ subulatâ. ———Herba caulescens, basi radicans. Folia petiolata laxè vaginantia. Scapus terminalis, squamis amplexicaulibus. Spica herbacea multiflora.

1. HYLOPHILA mollis. *Lindl. in Wall. Cat. no.* 7396.

Hab. in *Singapur, Wallich.* (*hab. s. sp.*)

Caulis glaber, ascendens, brevis. Folia 3-4 pollicaria, ovali-lanceolata, sicco nigricantia, utrinque acuta, nitida, 3-nervia, angustè petiolata: vaginâ cyathiformi laxâ glabrâ. Scapus gracilis, strictus, pedalis, basi glaber, apice pubescens; squamis duabus, subfoliaceis, amplexicaulibus, nec vaginantibus, aliisque subulatis spicæ proximis. Spica semipedalis, angusta, multiflora, pube brevi mollis; bracteis setaceis, floribus longioribus, patulis. Flores parvi, tomentosi, sepalo dorsali arcuato apice incurvo lateralibusque ascendentibus sub labello ventricoso prominentibus quasi utrinque galeati.

CCLXXIX. ÆTHERIA.

Etæria. *Blume Bijdr.* 1. 409.——Ætheria. *Endlich. gen. no.* 1558.——Platylepis. *Ach. Rich. l. infr. cit.*

Sepala conniventia, lateralia labello supposita, dorsale petalis agglutinatum. Labellum ventricosum, columnæ appressum, basi intùs bicallosum, apice acuminato. Columna nana, crassa, inappendiculata; stigmate ovali mox bipartito. Anthera dorsalis. Pollinia 2, sectilia, glandulæ lineari adnata.———Herbæ terrestres, acaules aut caulescentes. Folia oblonga, membranacea, nervosa. Scapus terminalis, vaginatus. Flores spicati, extus sæpiùs glanduloso-pubescentes.

Vix Goodyera differt nisi labello bicalloso.

1. ÆTHERIA albida. *Blume l. c.*

Æ. "glabra, foliis ovato-oblongis, floribus densè spicatis, labelli limbo ovato intùs muricato."

Hab. in *Java;* locis humidis in montosis Salak, Seribu, &c. Blume.

2. ÆTHERIA javanica. *Blume, l. c.*

Æ. "foliis ovalibus acutis undulatis discoloribus, floribus laxè spicatis externè glanduloso-pubescentibus, labelli limbo angustato."

Hab. in *Java;* in locis humidis in montosis Salak, Seribu, &c. Blume.

Leaves dark purple above, pale flesh colour beneath.

3. ÆTHERIA oblongifolia. *Blume Bijdr.* 410. *t* 14.

Æ. "foliis ovato-oblongis, floribus laxè spicatis externè glanduloso-puberulis, labelli limbo ovato-fornicato."

Hab. in *Java ;* in declivitatibus Solassie Provinciæ Tjanjor, Blume.

4. ÆTHERIA occulta. *Bot. Reg.* 1838, *misc. no.* 179.

Æ. foliis ovalibus nervosis in petiolum latum angustatis, vaginis scapi glabriusculi foliaceis, spicâ densâ elongatâ, bracteis magnis convexis ovario longioribus glanduloso-pubescentibus, sepalis basi pubescentibus, labello oblongo basi saccato apice acuminato canaliculato recurvo extùs tuberculato.

Goodyera occulta. *Thouars orch. afr. t.* 28.
Platylepis goodyeroides. *Ach. Rich. orch. maur.* 39. *t.* 6. *f.* 4.

Hab. in *Mauritio* et *Borbonia,* Thouars, &c. (*v. v. c.*)

5. ÆTHERIA abbreviata. *Lindl. in Wall. Cat. no.* 7385.

Æ. caule basi folioso ascendente, foliis ovali-lanceolatis in petiolum angustissimum attenuatis, scapo bivaginato puberulo, spicâ paucíflorâ strictâ, bracteis acuminatis ovario glabro duplò brevioribus, sepalis glabris, labello basi ventricoso medio 1-lamellato apice angustato et tùm dilatato truncato.

Hab. in *Napalia, Wallich.* (*hab. s. sp.*)

Stem slender, a span high, scarcely downy, with about 2 sheaths, which are a little leafy at the apex. Flowers very small.

6. ÆTHERIA fusca.

Æ. acaulis, foliis rosulatis ovalibus acutis sessilibus, scapo piloso, squamis oblongis apice foliaceis haud vaginantibus, spicâ densissimâ oblongâ, bracteis obtusis floribus longioribus, sepalis ovatis obtusis glabriusculis, labello saccato apice ovato obtuso, antherâ rotundatâ emarginatâ.

Goodyera fusca. *Lindl. in Wall. Cat. no.* 7395.

Hab. in *India septentrionali, Wallich, Royle.* (*hab. s. sp.*)

A short rigid plant from 5 to 7 inches high, with thick radical leaves spreading close upon the ground. It appears to be clothed with brown hairs, and is remarkable in this Physuridous section for the scales upon the scape not sheathing the stem, but simply adhering to it on one side.

CCLXXX. GOODYERA.

Goodyera. *R. Brown in Hort. Kew.* 5. 197. (1813).——Tussaca. *Rafin. in Journ. Bot.* 4. 270.——Peramium. *Salisb. in Hort. Trans.* 1. 261. (1812).

Sepala herbacea, lateralia labello supposita, dorsale c. petalis in galeam agglutinatum. Labellum liberum, aut columnâ connatum, ventricosum aut concavum, ecallosum, indivisum. Columna nana, recta, teres; stigmate membranaceo, rotundato aut rostrato; antherâ dorsali; polliniis 2 sectilibus.———Herbæ terrestres, caulescentes, radicibus succulentis fibrosis. Folia in petiolum angustata vaginatum. Flores spicati, sæpiùs pubescenes.

§ 1. *Labellum anticum, liberum.*

1. Goodyera repens. *R. Brown in Hort. Kew.* 5. 198. *Lodd. Bot. Cab. t.* 1987.

G. subacaulis, foliis ovatis acutiusculis unicoloribus petiolis longioribus, spicâ elongatâ secundâ pubescente, bracteis florum longitudine, sepalis ovatis acutis pubescentibus, labello ventricoso apice acuminato deflexo.

Satyrium repens. *Linn. sp. pl.* 1339. *Eng. Bot.* 5. *t.* 289.
Tussaca secunda. *Rafin. Journ. Bot.* 4. 271.
Peramium repens. *Salisb. in Hort. Trans.* 1. 261.

Hab. in *Europæ* subalpinis et sylvis sterilibus ab Anglia ad Mosquam; necnon in Sibiria, Gmelin, et in Nova Scotia, *Menzies.* (*hab. s. sp.*)

2. Goodyera pubescens. *R. Brown in Hort. Kew.* 5. 198. *Lindl. coll. bot. t.* 25. *Sweet. Fl. Gard. ser.* 2. *t.* 47.

G. subacaulis; foliis ovato-oblongis acutiusculis pictis petiolis longioribus, spicâ densâ pubescente, bracteis floribus æqualibus, sepalis ovatis obtusis pubescentibus, labello ventricoso apice ovato recto, stigmate rotundato.

Satyrium repens. *Mich. fl. bor. amer.* 2. 137.
Neottia pubescens. *Willd. sp. pl.* 4. 76.
Tussaca reticulata. *Rafin. in Journ. Bot.* 4. 271.

Hab. in *America septentrionali*; (*hab. s. sp. comm. cel. Torrey.*)

3. Goodyera Menziesii.

G. subacaulis, foliis oblongis venosis unicoloribus petiolis longioribus, spicâ laxâ secundâ multiflorâ, bracteis ovario æqualibus, sepalis lineari-oblongis puberulis, petalis margine anteriore dilatatis, labello concavo apice lineari recurvo obtuso concavo, stigmate antherâque acuminatis.

Spiranthes decipiens. *Hooker Fl. Bor. Amer.* 2. 203. *t.* 204.

Hab. in *Americæ septentrionalis* orâ occidentali, *Menzies, Douglas.* (*hab. s. sp.*)

A remarkable species, distinguishable from *Goodyera pubescens* not only by the peculiar form of the stigma and anther, but by its more lax spike, the flowers of which are quite secund, and much larger. The leaves too do not appear to have pale veins. Sir William Hooker has referred it to *Spiranthes* because of the form of its rostellum; but it has the ventricose, though not saccate labellum and the straight column of *Goodyera*; and it wants the calli at the base of the labellum, which are essential to *Spiranthes.*

4. GOODYERA marginata. *Lindl. in Wall. cat. no.* 7394.

G. subcaulescens, foliis ovato-lanceolatis unicoloribus petiolis longioribus, vaginis scapi puberuli foliaceis, spicâ elongatâ secundâ, bracteis in acumen lineare productis floribus longioribus, sepalis glabris, labello apice concavo ovato.

Hab. in *India septentrionali ; Wallich, Royle.* (*hab. s. sp.*)

Whole plant about a foot high and nearly smooth. Spike very compact and secund, 4 inches long, with very long bracts gradually tapered into a linear extremity.

5. GOODYERA macrophylla. *Lowe prim. fl. Mad.* 13. *c. ic.*

G. subcaulescens, foliis oblongis acutis in vaginis suis subsessilibus, scapo apice tomentoso, spicâ pyramidatâ densâ, bracteis floribus paulò brevioribus, sepalis pubescentibus oblongo-linearibus obtusis, labello ovato concavo obtuso extùs tuberculoso margine utrinque obsoletè unidentato.

Hab. in *Madera* ; gregaria in declivibus sylvarum humidis umbrosis rarissima, *Lowe.* (*hab. s. sp. comm. amiciss. Leman.*)

A very stout species, with creeping stems which rise erect to the height of a foot and more. The scape, bracts, and sepals are covered with ferruginous down. The petals are white ; the flowers scentless.

6. GOODYERA procera. *Hooker exot. fl. t.* 39.

G. caulescens, glaber, foliis lanceolatis acuminatis scapo brevioribus, spicâ densâ elongatâ cylindraceâ, bracteis ovatis acuminatis ovario longioribus, floribus subglobosis, sepalis petalisque subrotundis convexis obtusis, labello ventricoso apice calloso apiculato intùs villoso, columnæ angulis superioribus acuminatis.

Neottia procera. *Ker in Bot. Reg. t.* 639.
? Neottia bifida. *Blume Bijdr.* 408.

Hab. in *Asia tropica ;* Sylhet et Napalia, *Wallich ;* Zeylona, *Macrae* ; China, *Vachell ;* et fortè Java, Blume. (*hab. s. sp. et v. v. c.*)

This common plant can scarcely be missing in the Flora of Java, wherefore I have with doubt selected the *Neottia bifida* of Blume as possibly being it, the short character of that species agreeing very well with it, if the two acuminate processes of the column are what is meant by "gynostemium profunde bifidum."

7. GOODYERA rubicunda. *Lindl. in Bot. Reg.* 1839. *misc.* 92.

G. caulescens, foliis oblongis acutis in basin cuneatam angustatis, spicâ elongatâ multiflorâ laxâ ferrugineo-tomentosâ, bracteis lineari-lanceolatis acuminatis ovario longioribus, sepalis pubescentibus, labello concavo acuto apice reflexo intùs villoso.

? Neottia rubicunda. *Blume Bijdr.* 408.

Hab. in *Manilla, Cuming.* ; nec non *Java,* Blume ? (*v. v. c.*)

This plant has the habit of Goodyera procera, but is smaller ; the scape and spike are rather more than a foot high, downy, and of a dull cinnamon brown. The flowers are also downy and of the same colour, with the exception of the lip, which is white, and densely fringed inside with glandular hairs.

8. Goodyera nuda. *Thouars orch. afr. t. 29. Ach. Rich. orch. maur.* 38. *t.* 6. *f.* 3.

G. caulescens, glaber, foliis ovali-lanceolatis acutis membranaceis petiolis longioribus, spicâ oblongâ multiflorâ, bracteis acuminatis floribus brevioribus, sepalis glabris, labello concavo acuminato apice ovali acuto, petalis brevioribus acutissimis.

Hab. in insulis *Mauritii* et *Borboniæ,* Thouars, &c.

Flowers extremely small. Perhaps a species of *Ætheria.*

9. Goodyera guayanensis.

G. foliis . . . . , scapo glabro squamis membranaceis laxis acuminatis vaginato, spicâ densâ cylindraceâ puberulâ, bracteis glabris ovatis ventricosis apice setaceis floribus longioribus, sepalo dorsali galeato acuminato, labello acuminato canaliculato apice dilatato rotundato.

Hab. in *Guayana, Schomburgk,* 698. (*hab. s. sp.*)

Stem 6 inches high, of which 1½ inch is occupied by the dense spike. Flowers very small, minutely downy. The dorsal sepal is so much galeate as to give the flowers the appearance of a *Cranichis.*

§ 2. *Labellum posticum, c. columnâ utrinque auriculatâ acuminatâ connatum.* Rhamphidia.

10. Goodyera? elongata.

G. caulescens, foliis ovali-lanceolatis petiolis angustissimis longioribus, scapo gracili et spicâ rarâ multiflorâ elongatâ molliter pubescentibus, bracteis ovario duplò brevioribus, sepalis obtusis pubescentibus, labello concavo acuminato postico intus villoso cum columnâ auriculatâ connato.

Etæria elongata. *Lindl. in Wall. cat.* 7384.

Hab. in *Indiæ orientalis* archipelago, *Finlayson.* (*hab. s. sp. comm. cel. merc. Ind. or.*)

A very slender plant, more than a foot and half high. Flowers very small, nodding.

I suppose the following are also referable to this genus: viz.

11. *Neottia grandis;* foliis ovali-oblongis, spicâ densâ et floribus externè villosiusculis, bracteis ovarium duplo fere superantibus, labelli limbo obtusiusculo patente. *Blume Bijdr.* 407. Hab. in *Java;* in sylvis montanis Provinciæ Bantam.

12. *Neottia viridiflora;* foliis ovato-oblongis, spica pauciflora floribusque glabris, bracteis longitudine ovarii pubentis, labello acuto patente. *Id.* 408. Hab. in *Java;* in radicibus arborum ad montem Salak.—— Flores mediocres, sordidè virescentes.

13. *Neottia colorata;* foliis ovato-lanceolatis discoloribus, spica rara floribusque externè puberulis, bracteis ovario æqualibus, labelli limbo patente. *Id.* 409. Hab. in *Java;* ad ripas fluvii Tjapus in montosis Salak.

14. *Neottia reticulata;* foliis lanceolatis reticulato-nervosis, spica laxiflora, bracteis ovarium superantibus. *Id.* 409. Hab. in *Java;* ad originem fluvii Tjiburrum in montosis Gede.

Possibly the following plant, said to have a clavate column, may also belong here.

15. *Neottia parviflora;* "foliis oblongo-lanceolatis, pedunculis floribusque externè pubentibus, bracteis longitudine ovarii, labelli limbo obtuso patente internè bicalloso." *Blume,* 408. Hab. in *Java,* inter lapides ad marginem fluvii Tjapus.

also

16. *Satyrium vallisoletanum;* "bulbis fasciculatis, foliis 7-nerviis, floribus pellucidis, labello subdiviso erecto, lacinia media reflexa." *Llave orch. mex.* 2. 7.

Hab. in *Mexico;* prope *Vallisoletum,* juxta prædium de Quinzeo, fl. Maio.

Folia radicalia, ovata, lata, acumine reflexo terminata. Scapus villosus. Flores laxè spicati, ferruginei, virescentes, herbacei, extùs pellucidi. Labellum erectum, concolor, obscurè 3-lobum, genitalia amplectens, laciniâ intermediâ petaloideâ, albidâ, revolutâ, tomento lævi intùs vestitâ. *La Llav. et Lexarç.*

CCLXXXI. EUCOSIA.

Eucosia. *Blume Bijdr.* 415. *Endlich gen. no.* 1556.

Perianthium erecto-connivens sepalis latioribus. Labellum sepalis conforme, intùs villosum, columnam amplectens. Columna brevis, obtusa, indivisa. Anthera denti dorsali affixa, acuminatissima, bilocularis. Pollinia 2, biloba, granulosa, pedicellata; pedicellis apice connexis nudis. ——— Herba Javanica, terrestris, caulescens. Folia petiolata, ovata, nervosa, membranacea. Spica terminalis, villosa, pauciflora, bracteis præter florales 2 alternis. Flores bracteati, carnei, externè pubescentes. Blume.

I cannot understand the figure of this genus in Blume's tables. It appears very near Georchis, but different in its obtuse stigma, and much longer column. Perhaps it should be referred to Goodyera.

1. Eucosia carnea. *Blume, l. c. t.* 18.

Hab. in *Javæ* humidis, montis Salak prope Passir Java, Blume.

CCLXXXII. GEORCHIS.

Georchis. *Lindl. in Bot. Reg. sub. fol.* 1618. *Endlich. gen. no.* 1537.

Flores ringentes, cylindrico-conniventes, basi ventricosi. Sepala libera, dorsale cum petalis agglutinatum; lateralia labello supposita. Label-

lum sessile, acuminatum, ecallosum, indivisum, columnam amplectens. Columna brevissima, membranacea; stigmate infundibulari, anticè emarginato, involuto, rostello acuminatissimo, labelli longitudine, in setas 2 bipartito. Anthera dorsalis, in acumen longissimum producta. Pollinia 4, minuta, farinosa, clavata, separabilia, caudiculis totidem nudis, setaceis, apice cohærentibus.———Herbæ Indiæ orientalis, caulescentes. Folia subcordata, petiolis vaginantibus. Scapus squamis unâ alterâve vaginatus. Spicæ pubescentes, paucifloræ.

This genus is near Goodyera, from which it differs in its very acuminate anther and stigma, the latter of which splits into 2 very long setaceous arms.

1. Georchis biflora. *Lindl. in Wall. Cat. no.* 7379.

G. foliis subrotundo-ovatis pictis scapo bifloro æqualibus, vaginis scapi 2 imbricatis linearibus herbaceis obtusis, floribus puberulis, labelli ovati acumine lineari undulato obtuso basi pilosâ.

Hab. in *Nepalia? Wallich.* (*hab. s. sp.*)

Whole plant about 2 inches high. Stem rooting, decumbent. Leaves an inch long, and nearly ¾ broad. Flowers, when dried, 8 lines long.

2. Georchis cordata.

G. glabra, foliis cordatis acutis 3-nerviis concoloribus scapo multifloro brevioribus, vaginâ scapi solitariâ infra medium membranaceâ acuminatâ, floribus glaberrimis, labelli ovati acumine brevi apice recurvo medio villoso.

Hab. in *Zeylona, Macrae.* (*hab. s. sp.*)

Stigma intra infundibulum membranaceum, emarginatum, a tergo rostello adnatum cujus latera involvuntur, inclusum.

A span high. Stem decumbent, rooting. Flowers about 5 lines long. There are a few glandular hairs on the scape, otherwise the plant is smooth, with the exception of a tuft of hairs in the middle of the lip.

3. Georchis foliosa.

G. caule ascendente glabro, foliis ovalibus utrinque acutis longè petiolatis scapo longioribus, scapi tomentosi apice aphylli vaginis foliaceis imbricatis, spicâ oblongâ multiflorâ, bracteis linearibus acuminatis glabris foliaceis floribus multò longioribus, sepalis ovatis acutis tomentosis, labello ovato concavo acumine dilatato membranaceo marginibus inflexis.

Hab. in regno *Burmano, Griffith.* (*hab. s. sp.*)

Leaves an inch and half long, without the petiole, which, including the sheath, is about 10 lines long. Flowers buried among narrow leafy bracts, which are smooth, while the rachis and flowers are downy.

CCLXXXIII. MACODES.

Macodes (Neottiæ *sect.*) *Blume Bijdr.* 1. 407. *t.* 2.

Sepala herbacea, conniventia, libera; lateralia majora. Petala libera, filiformia, patula. Labellum liberum, saccatum, imberbe, patulum, trilo-

bum; lobo medio elongato, linguæformi. Columna teres, rostrata, obliquè torta, basi appendice bilobâ instructa; stigmate conspicuo verticali; clinandrio carnoso cucullato. Anthera horizontalis, bilocularis, acuminata, in rostellum prona. Pollinia 2, biloba, sectilia, longè pedicellata, glandulæ cuneatæ adnata.———Herba Spiranthis v. potius Stenorhynchi cujusdam viridiflori habitu?

These characters are taken from Blume. The plant he calls Neottia Petola is evidently a peculiar genus, differing from Myoda in the labellum not being adnate to the column; from Hæmaria in the presence of a pair of large appendages at the base of the column; and from both in the lateral sepals being herbaceous and connivent.

1. Macodes Petola.

Neottia Petola. *Blume Bijdr.* 1. 407. *t.* 2.
Folium Petolatum. *Rumph. Herb. Amb.* 6. *t.* 51. *f.* 3. *sec. Blume.*

Hab. in *Java;* in locis humidis ad ripas, Blume.

Leaves oval, acute, discoloured, clouded on the upper side, and most elegantly marked with netted veins. The spike and flowers externally clothed with glandular pubescence; limb of the labellum spreading. Blume enquires whether this can be Smith's Neottia acaulis, which it certainly is not. He also cites to it the Folium Petolatum of Rumphius, which has been considered by Wallich as an Anæctochilus.

CCLXXXIV. TROPIDIA.

Tropidia *Lindl. in Bot. Reg. sub. fol.* 1618. *Endlich. gen. no.* 1565.

Perianthium clausum. Sepala herbacea, glabra, lateralia majora, basi obliquè producta, calcar mentientia; dorsale brevius a petalis liberum. Petala sepalo dorsali conformia, libera. Labellum liberum, sessile, ventricosum, compressum (?) apice constrictum et in limbum parvum cucullatum abruptè expansum; intra marginem utrinque lamellâ auctum. Columna elongata, teres, libera; rostello acuto; stigmatis labio inferiore incrassato; clinandrio longè infra stigma excavato. Anthera dorsalis, cum stigmate parallela, carinata, mutica. Pollinia 4, in massas pulvereas 2 bilobas cohærentia; caudiculâ brevi.———Herba, arundinis facie. Folia in vaginam longam sessilia, omninò graminea. Spica parva, conica, subsessilis. Flores minuti, virides.

This singular genus has the habit of some large kind of grass, the form and texture of its leaves being quite of such a nature. It may be compared to Evelyna, in some respects.

1. Tropidia curculigoides. *Lindl. in Wall. Cat. no.* 7386.

Hab. in *India orientali;* montibus Sylhet, et secus ripas fluminis Attran, *Wallich;* Zeylona, in pascuis, *Macrae.* (*hab. s. sp.*)

Omnes partes glabræ. Caulis strictus, tenuis, striatus, vix solidus. Folia lineari-lanceolata, Arundinis textura, acuminatissima, 6-8 poll. longa, in vaginam longam striatam sessilia; suprema minora, sensim in bracteis mutata. Spica conica, parva, subsessilis, bracteis quibusdam angustissimis vacuis circumdata, 6 lineas longa, multiflora. Flores virides,

glabri. Bracteæ superiores setaceæ, alabastris longiores. Sepala lateralia ovato-lanceolata, basi semicordata; supremum brevius et angustius. Petala lanceolata, subfalcata. Labellum c. columnâ verosimiliter haud articulatum.

CCLXXXV. ULANTHA.

Ulantha. *Hooker in Bot. Mag. sub. t.* 2990. *Endlich. gen. no.* 1549.

Flores ringentes. Sepala semipetaloidea, dorsale planum arcuatum, lateralia majora basi æqualia unguiculata patentia, apice dilatata crispa appendicibus papillosis armata. Petala sepalo dorsali supposita, libera, breviora, undulato-crispa. Labellum cucullatum, trilobum, unguiculatum, lamellatum et verrucis conicis obsitum. Columna libera, semiteres, elongata, basi paulò producta, utrinque dente aucta; stigmate subquadrato, rostello brevi bifido. Anthera dorsalis, ovata, acuta, 2-locularis, connectivo crasso, intra cucullum carnosum clinandrii inserta. Pollinia 4, geminata, arcuata, subfarinacea.——Herba terrestris, Sarcoglottidis visu.

In this remarkable genus we find the same tendency to break up the surface of the sepals into papillæ, or glandular hairs, as in *Chloræa* among the Arethuseous tribe. It has no obvious affinity to any other genus of this tribe.

1. Ulantha grandiflora. *Hooker, l. c.*

Neottia? grandiflora. *Id. in Bot. Mag. t.* 2956.

Hab. in insulâ *S. Vincentii,* Guilding. (*exam. s. c. in hb. Hooker.*)

Stem a foot high. Leaves linear-oblong, acuminated, glaucous, tipped with brown, gradually changing into the lanceolate imbricated scales of the scape. Flowers very large, green and white.

CCLXXXVI. ANÆCTOCHILUS.

Anæctochilus. *Blume Fl. Jav. præf. VI. Endlich. gen.* 1569.——Anecochilus. *Blume Bijdr.* 411.——Chrysobaphus. *Wallich. fl. nep. tent. t.* 27.——Orchipedum. *Kuhl et Hasselt Orchid. ed. Breda, t.* 10. *fide Endlicheri.*

Perianthium ringens. Sepalum supremum cum petalis in galeam agglutinatum; lateralia patula, basi inæqualia, labello supposita. Labellum cum columna basi connatum, ventricoso-calcaratum, ungue rigido canaliculato inflexo fimbriato, limbo bilobo patente; callis duobus in fundo scroti. Columna brevis, marginibus membranaceis dilatatis involutis appendiculam bilamellatam simulantibus. Stigma basi bicallosum. Pollinia 2, pulverea, subbiloba, caudiculis brevibus, glandulâ oblongâ.——Herbæ tropicæ, Asiaticæ, radice fibrosâ, rhizomate filiformi subterraneo. Caules foliosi. Folia nervosa, discolora, venis sæpè auromicantibus. Flores spicati, laxiusculi, glanduloso-pilosi.

This exceedingly curious genus is essentially distinguished by bearing in the middle of the column, just below the stigma, a pair of transverse calli, which are evidently abortive stigmata, analogous to those of Habenaria, but adnate to the column, and interposed between the anther-bed

and a thin plate which is adherent to the face of the column. What the latter is I do not know.

§ 1. *Labellum margine fimbriatum v. dentatum.*

1. Anæctochilus setaceus. *Blume l. c. f.* 15. *Bot. Reg. t.* 2010.

A. foliis pictis ovatis s. ovalibus acutis discoloribus, spicâ strictâ pauciflorâ sepalisque pubescentibus, labelli margine setaceo-multifido basi rotundato, sacco conico emarginato.

Folium petolatum. *Rumph. herb. amb.* 6. 93. *t.* 41. *f.* 3. *sec. Wallich.*
Wana Raja *Zeylonensium.*

Hab. in *Java ;* locis humidis et umbrosis inter lapides in montosis Salak, Gede, Tankuwan Prahu, Blume; *Zeylona,* sylvis humidis obscuris, *Macrae;* Amboynæ montibus summis, Rumphius. (*v. v. c. et hab. s. sp.*)

This and the following have white flowers, and dark leaves beautifully netted with bright yellow veins. In Ceylon it is called Wana Rajah, or King of the woods.

2. Anæctochilus Roxburghii. *Lindl. in Wall. Cat. herb. ind. no.* 7387.

A. foliis pictis ovatis acutis discoloribus, spicâ laxâ multiflorâ sepalisque pubescentibus, labelli margine setaceo multifido basi sagittato, sacco conico emarginato.

Chrysobaphus Roxburghii. *Wallich. tent. fl. nepal. t.* 27.

Hab. in *India orientali ;* Nepalia et Sylhet sylvis umbrosis, *Wallich ;* Khasiya *Griffith in herb. ind.* (r. et misc. 6.) ; Assam, *D*[a]. *Mack.* (*hab. s. sp.*)

3. Anæctochilus brevilabris.

A. foliis pictis subrotundo-ovatis discoloribus, spicâ laxâ multiflorâ glanduloso-pilosâ, bracteis patulis ovatis setaceo-acutis ovario brevioribus, sepalis pubescentibus, labelli margine pinnatifidè dentato laminâ breviore basi sagittatâ, sacco emarginato.

Hab. in *Assam D*[a]. *Mack.* (*hab. s. sp. comm. cel. Hooker.*)

Another of the species with bright golden veins upon a deep purplish green ground. Its peculiar lip marks it readily as a distinct species.

4. Anæctochilus lanceolatus.

A. foliis ovato-lanceolatis unicoloribus, spicâ densâ multiflorâ glanduloso-pilosâ, bracteis erectis floribus longioribus, sepalis glabris, labelli margine interruptè dentato-fimbriato laminæ longitudine, sacco didymo.

Hab. in *Assam, D*[a]. *Mack.* Khasiya, *Griffith* in herb. ind. (s.) (*hab. s. sp. comm. cel. Hooker.*)

A pretty species with plain leaves, and a very dense narrow spike of flowers. The calli of the stigma are so large as to meet below that organ they are guarded in front by a folded plate smaller than themselves.

5. Anæctochilus flavescens. *Blume l. c.*

A. " foliis ovato-oblongis, spicâ pubente multiflorâ, sepalis nudis, labello inferne ad margines denticulato."

Hab. in *Java;* in cacumine montis Burangrang, Provinciæ Krawang, Blume.

Flores flavi. *Bl.*

6. Anæctochilus pubescens. *Blume l. c.*

A. "foliis ovatis, spica subbiflora sepalisque exterioribus pubescentibus, labello inferne ad margines denticulato."

Hab. in *Java;* in sylvis altioribus montis Salak, Blume.

Flores albi. *Bl.*

§ 2. Myrmechis. *Labellum margine indivisum.*

7. Anæctochilus sandvicensis.

A. foliis ovatis, spicâ subsessili angustâ multiflorâ, bracteis lanceolatis acuminatis appressis ovario lineari brevioribus, labelli margine integro apice transverso cordato apiculato, sepalis glabris, sacco didymo.

Hab. in insulis *Sandwich, Mathews. (exam. s. sp. in hb. Hooker.)*

Caulis prostratus, basi radicans. Folia ovato-oblonga, sesquipollicaria, multinervia, in petiolum brevem angustissimum in vaginam lævem cyathiformem expansum angustata. Spica terminalis, brevipedunculata, vaginâ alterâ foliaceâ alterâ membranaceâ in pedunculum, angusta, 3-4 poll. longa, pubescens. Bracteæ membranaceæ, lanceolatæ, acuminatæ, ovario lineari breviores, fere dimidium pollicem longæ. Ovarium in collum angustatum. Sepala glabra, lateralia oblonga, concava, reflexa, supremum ovatum cum petalis conformibus agglutinatis fornicatum. Labellum basi ventricosum, scrotiforme, didymum, sacculis rotundatis umbonatis in fundo callosis; medio lineare, canaliculatum, in lobum terminalem expansum magnum transversum apiculatum reniformem emarginatum.

8. Anæctochilus gracilis. *Blume, l. c.*

A. "foliis ovatis, spicâ pauciflorâ pubente, sepalis glabris, labello edentulo, callis gynostemii erosis."

Hab in *Java;* in summo montis ignivomi Gede, Blume.

CCLXXXVII. GALERA.

Galera. *Blume Bijdr.* 1. 415. *t.* 3.

Perianthium connivens. Petala latiora. Labellum obtusè calcaratum, concavum; limbo indiviso undulato. Columna brevis, crassa, fornicata. Anthera internè infra apicem affixa, turbinata, carnosa, 2-locularis: loculis bilocellatis. Pollinia 2, subbiloba, granulosa, pedicellata; pedicellis arcuatis, ad latus exterius antheræ affixis. Ovarium sub flore coarctatum. ———Herba terrestris, caulescens. Radix tuberosa. Caulis aphyllus, squamatus, apice spicatus, multiflorus. Flores pedicellati, bracteati, nutantes. *Char.* ex *Blume.*

Blume says this genus is allied to Arethusa; but according to the figure, which in some respects is not clearly represented, the pollen masses are those of Neotteæ.

1. Galera nutans. *Blume, l. c.*

Hab. in *Java;* in sylvis altioribus montis Salak; Blume.

CCLXXXVIII. PHYSURUS.

Physurus. *Richard, Orch. Eur.* 33.*——Microchilus. *Presl. Reliq. Hænk.* 1. 94.—— Erythrodes. *Blume Bijdr.* 410.

Sepala subæqualia, herbacea, lateralia labello supposita. Petala subæqualia, sepalo dorsali agglutinata. Labellum anticum, cum columna parallelum, concavum, sub apice dilatato sæpe lunato constrictum, basi calcare brevi libero sæpe ventricoso auctum. Columna libera v. basi tantum labello leviter accreta; rostello demum membranaceo bipartito. Anthera dorsalis, apiculata, bilocularis. Pollinia 2, sectilia, glandulæ ovali adnata.——Herbæ terrestres, caulescentes, radicibus filiformibus succulentis. Folia basi laxè vaginata, petiolata, nervosa. Flores densè racemosi.

§ 1. *Labellum apice lunatum.*
§ 2. *Labellum apice dilatatum, angulatum aut rotundatum.*
§ 3. *Labellum lanceolatum.*
§ 4. *Labellum apice tridentatum*

§ 1. *Labellum apice lunatum.*

1. Physurus hirtellus.

P. caule ascendente medio folioso, foliis ovatis acutissimis petiolatis, scapo pubescente, petalis integerrimis, labello apice lunato ciliato, calcare filiformi incurvo ovario breviore.

Satyrium hirtellum. *Swartz. prodr.* 118.
Orchis hirtella. *Swartz. fl. Ind. occ.* 1394.

Hab. in *Jamaicæ* sylvis montanis, inter quisquilia et dejecta putrescentia arborum, Swartz; *Sti. Vincentii, Guilding; Tortola, Schomburgk; Stæ. Luciæ; Anderson.* (*v. v. c. et. h. s. sp.*)

An obscure plant, not at all uncommon in herbaria. It is very variable in size, my St. Vincent's and garden specimens not being more than 6 inches high, while others gathered in Tortola by Mr. Schomburgk are 3 times as large. Its very small flowers, (the smallest in the genus) and its ovate very acute leaves distinguish it readily.

2. Physurus Preslei.

P. caule basi foliato, foliis ovato-lanceolatis acuminatis multinerviis scapo stricto brevioribus, spicâ elongatâ angustâ multiflorâ, labello lineari apice reflexo sagittato tomentoso, calcare oblongo ventricoso ovario æquali.

Microchilus major. *Presl. Reliq. Hænk.* 1. 94. *Symbol. Bot. t.*

Hab. in *Peruvia, Hænke.* (*exam. s. sp. in hb. reg. Monac.*)

Calli adsunt duo, calcar decurrentes, filiformes, adnati, apice liberi.

3. Physurus roseus.

P. caule crasso erecto dense folioso, foliis ovalibus acuminatis multinerviis in petiolum sensim angustatis, scapo et inflorescentiâ villosis, spicâ cylindraceâ elongatâ, bracteis linearibus acuminatis floribus longioribus,

* *Orchis plantaginea* et *hirtella* genus sunt Goodyeræ et Epipogio intermedium. Rich.

labello apice lunato laciniis falcatis revolutis, calcare filiformi incurvo ovario breviore.

Hab. in *Brasilia*; in Serra de Piedade ad arbores, prov. Min. Ger. *Martius* (*exam. s. sp. in hb. reg. Monac.*)

Stem as stout as a swan's quill, 8 inches high. Leaves with petiole from 4 to 6 inches long. Spike about 4 inches long, with rose coloured bracts and flowers of the same colour, but paler.

4. Physurus densiflorus.

P. caule ascendente, foliis ovali-lanceolatis acuminatis trinerviis, spicâ densâ cylindraceâ intra folia subsessili, labello apice crasso unguiculato sagittato, calcare falcato ovario longiore.

Hab. in *Brasilia*; in sylvis prope Bahiam, *Martius*. (*exam. s. sp. in hb. reg. Monac.*)

Stem about 6 inches high, rooting at the base. Leaves apparently more firm than usual, although many-nerved, yet with only 3 principal ribs visible when dry. Spike very close, about 4 inches long, not much projecting beyond the leaves in the only specimen I have seen.

5. Physurus bifalcis.

P. caule erecto, foliis multinerviis ovali-lanceolatis in petiolum brevem sensim angustatis scapo æqualibus, spicâ laxâ elongatâ, labello apice lunato biconvexo laciniis elongatis falcatis, calcare filiformi incurvo ovario breviore.

Hab. in *Peruvia, Mathews* 1876. (*exam. s. sp. in hb. Hooker.*)

Stem erect, 6 inches high. Upper leaves as long or longer than the slender scape, which bears about 3 loose smooth sheaths. Bracts lanceolate, longer than the ovary. Lateral sepals very narrow, and about the same length as the spur, which is but very little inflated.

6. Physurus ovatus.

P. caule erecto, foliis ovato-lanceolatis acuminatis trinerviis, spicâ conicâ densissimè imbricatâ pubescente, labello apice lunato apiculato: laciniis subtruncatis, calcare vesicato.

Hab. in *Peruvia, Mathews*, 1877. (*hab. s. sp.*)

Stem erect, about 6 inches long, terminated by a slender scape rather more than twice as long and finely downy. Flowers very small, arranged in an ovate or conical head.

7. Physurus repens.

P. pubescens, labello elliptico apice utrinque transversim emarginato lobo terminali reniformi apiculato dentato, calcare ovario dimidio breviore reflexo, spica elongata, scapo medio folioso; foliis petiolatis lanceolatis, acutis.

Pelexia repens. *Poppig. gen. et. sp.* 2. 17. *t.* 124. *f. a—e.*

Hab. in *Peruviæ* subandinæ montibus sylvaticis ad Pampayaco et Cuchero; Floret Julio; Poppig.

A plant from 8 inches to a foot high, with the middle only of the stem leafy. Leaves about two inches long and 7 lines broad (or in a narrow leafed variety not more than four lines broad) 5-7-nerved, crimson beneath,

green above, sometimes spotted. Spike densely downy with white hairs. Flowers greenish, about 4½ lines long. *Poppig.*

§ 2. *Labellum apice dilatatum, angulatum, aut rotundatum.*

8. Physurus minor.

P. scapo tenui erecto basi foiioso, foliis ellipticis acuminatis, spicâ lineari laxâ, floribus minutis, labello lineari apice dilatato emarginato, calcare scrotiformi ovario duplò breviore.

Microchilus minor. *Presl. Reliq. Hænk.* 1. 94. *Symb. Bot. t.*

Hab in *Peruvia,* Hænke.

Stem about a foot high. Flowers the smallest in the genus; according to Presl's figure, arranged in a very slender spike.

9. Physurus foliosus.

P. "labello obovato utrinque transversim inciso; lobo terminali cordato acuto (pedicellato) integerrimo (papilloso), calcare ovario longiore pendulo, spicâ ovali densiflorâ, scapo folioso, foliis petiolatis oblongis acuminatis."

Pelexia foliosa. *Poppig. n. gen. et sp.* 2. 17.

Hab. in *Peruvia;* rara in sylvis paludosis ad Missionem Tocache flumini Huallagae vicinum, florens Julio, Poppig.

A plant 6 inches high. Stem finely downy, with 6 or 7 leaves, each about 4 inches long, violet purple underneath. Spike surrounded by acuminated vaginæ, otherwise naked, cylindrical, rather swelled in the middle, dense, obtuse, about an inch and a half long. Flowers very small, whitish. *Poppig.*

10. Physurus plantagineus.

P. caule ascendente, foliis ovato-lanceolatis acutis petiolatis, scapo rachi ovariisque pilosis, petalis cuneatis dentatis, labello lineari acuminato apice ovato crenulato recurvo, calcare inflato ovario paullò breviore.

Orchis elatior latifolia Asphodeli radice, spicâ strigosâ. *Sloane Jam.* 119. *hist.* 1. 250. *t.* 147. *f.* 2.
Satyrium plantagineum. *Linn. sp. pl.* 1338.
Orchis plantaginea. *Swartz. fl. Ind. occ.* 1396. *Willd. no.* 61.
Pelexia bursaria. *Lindl. in Ann. Nat. Hist.* 4. 116.

Hab in *India occidentali; Dominicâ, Henslow. (hab. s. sp.)*

Stem 1½ to 2 feet high with a short few-flowered raceme of flowers as large as those of *Goodyera macrophylla.* The scape is very slender in comparison with the real stem, and has 3 or 4 membranous loose sheaths.

I have no excuse to offer for having carelessly described this as a new species of Pelexia.

11. Physurus debilis.

P. caule debili filiformi prostrato vix radicante, foliis ovatis obtusiusculis breviter petiolatis subtrinerviis internodiorum longitudine, racemo ovato paucifloro obtuso, bracteis lanceolatis membranaceis floribus brevioribus, sepalis glabris, labello apice dilatato angulato per medium bilamellato, calcare inflato obtuso ovarii longitudine.

Hab. in *Brasilia;* juxta prædium Lumiar, pago "Haut Macahè" dicto, Descourtilz, (*hab. s. sp. comm. beatus Prescott.*)

A plant with the habit of a prostrate Commelina. Leaves about an inch long, gradually diminishing into the scales of the scape, which in this species is not distinguishable from the stem. The hairless sepals are a remarkable character in a genus so generally hairy.

A figure of this exists among the collection of M. Descourtilz, who says he only found it at the foot of trees half destroyed by fire, and whose decaying fragments form the vegetable mould that surrounds them. He describes the appearance of the whole plant as being crystalline like Purslane.

12. Physurus pictus.

P. caule brevissimo, foliis ovatis acutis pictis, petiolo tenui, scapo villoso 2-3-vaginato, racemo conico, bracteis floribus brevioribus, sepalis glabris, labelli concavi lobo medio truncato apiculato, calcare compresso medio latiore ovario longiore.

Hab. in *Brasiliâ;* ad Rio Belmonte, *Pr. Max. Wiedensis;* in humo locis montanis sylvaticis, prope Mandioccam et in collibus ad Boto fogo prope Sebastianopolim, necnon inter folia putrida ad Capocabara, Maio, *Martius.* (*hab. s. sp.*)

A small plant, usually 4 or 5 inches high, but occasionally larger. Leaves netted with golden yellow veins. Petals with a dusky spot at the back. The flowers appear, from a figure of M. Descourtilz, to be white, with the tip of the labellum yellow.

13. Physurus Blumei. *Lindl. in Wall. Cat. no. 7397.*

P. caule ascendente, foliis ovato-lanceolatis 3-nerviis, scapo et inflorescentiâ omni rufo-pilosis, petalis linearibus integerrimis, labello oblongo concavo apice cordato-ovato reflexo, calcare inflato apice didymo ovario multò breviore.

? Erythrodes latifolia. *Blume Bijdr.* 411. *t.* 72.

Hab. in *India orientali;* provincia Sylhet, *Wallich;* *Zeylonâ,* locis obumbratis inter sylvas Peradeniæ, *Macrae;* Java? Blume. (*hab. s. sp.*)

From 1 to 2 feet high, the upper part covered with a brownish down, the lowest quite smooth. The flowers are dull brown, a little tinged with pink, and are closely pressed into a long spike.

If the labellum of *Erythrodes latifolia* is really emarginate and rounded at the apex, as it is described and figured, it must be different from this; but the description and figure given by Blume accord so well in other respects that I suspect an error in that particular.

§ 3. *Labellum lanceolatum.*

14. Physurus pauciflorus.

P. "pubescens, labello oblongo integro denticulato, calcare ovarium adæquante, scapo paucifloro nudo, floribus alternis dissitis, foliis ellipticis obtusis."

Pelexia pauciflora. *Poppig. n. g. et sp. pl.* 2. 17. *t.* 124.

Hab. in *Brasilia boreali;* in sylvis sæpe inundatis circum pagum Ega in provincia Rio negro, Florens Decembri; Poppig.

A foot high. Leaves all radical, an inch to an inch and a half long,

often decayed, which gives the plant the appearance of being leafless. Scape 8 or 9 inches long, thinner than a crow-quill, cinnamon coloured; the spike, ovaries and base of the sepals covered with flattened spiral white hairs. Labellum often dorsal, smooth, white.

§ 4. *Labellum apice tridentatum.*

15. Physurus querceticola.

P. caulescens, glaberrimus, foliis ovatis acutis membranaceis scapo univaginato brevioribus, spicâ paucíflorâ, bracteis membranaceis floribus brevioribus, labello sub apice tripartito constricto, calcare oblongo sepalis paulò breviore.

Hab in *Americâ septentrionali;* in quercetis ad Novam Aureliam abundè, *Ingalls. (hab. s. sp. comm. cel. Torrey.)*

Of this curious little plant I possess but one poor specimen, about 4 inches high. It is a weak membranous thing, with 4 leaves and 4 or 5 flowers, which, in the dried state, are very thin and delicate.

CCLXXXIX. BASKERVILLA.

Sepala patentia, basi obliqua, omninò libera. Petala angustiora, patentia, basi columnæ dorso adnata. Labellum liberum, (cum columnâ articulatum?) ovatum, nudum, basi in saccum pendulum productum. Columna clavata, basi teres, appendiculata, versus apicem carnosa, solida, pyramidalis, apice ipso truncata; foveâ pro stigmate verticali, bilabiatâ, in facie columnæ apicis anticâ; rostello e contrario subulato, e facie posticâ quæ clinandrium est producta. Appendix bivalvis ad columnæ basin sita, eique adhærens, labello abdita; valvulis verticalibus, supernè lamellæ parvæ horizontalis ope connexis.——Herba Peruviana, terrestris, radicibus fasciculatis, facie Orchidis.

Genus singulare, dicatum Thomæ Baskerville, juveni ingenioso, discipulo dilecto, libelli de plantarum affinitatibus auctori, eheu! morte præmaturâ abrepto A. D.* 1840.

This very singular plant is nearly allied to *Physurus* on the one hand, and to *Ponthieva* on the other, agreeing with the first in its calcarate lip, and with the latter in the spreading petals being united to the back of the column. It however differs from both, and indeed from every one of the Neotteous genera known to me by its stigma, which is a small two-lipped perforation in the upper anterior edge of the truncated pyramidal column.

1. Baskervilla assurgens.

Hab. in *Peruvia, Mathews,* 1888. *(exam. s. sp. in hb. Hooker.)*

Planta glaberrima, palmaris. Folia omnia radicalia, erecta, obovato-lanceolata, acuminata, spicâ vix breviora, basi in petiolum angustata. Scapus squamis 3, apice patulis, acutis vaginatus. Spica cylindracea,

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* Affinities of plants, with some observations upon progressive developement. By Thomas Baskerville. London, Taylor & Walton, 1839, 12mo.

2½ poll. longa, densa. Flores *Gymnadeniæ conopseæ* magnitudine. Bracteæ lineari-lanceolatæ, membranaceæ, longitudine florum. Sepala ovata. Petala linearia, æquilonga, basin versus nonnihil angustata. Labellum carnosum, ovatum, obtusum, concavum, intùs glaberrimum.

CCXC. HERPYSMA.

Herpysma. *Lindl. in Bot. Reg. sub. fol.* 1618. *Endlich. gen. no.* 1568.

Perianthium connivens. Sepalum dorsale paulò sejunctum; lateralia cum petalis antrorsùm arcuatis. Labellum anticum, calcaratum, cum basi columnæ connatum, ovatum, intus versus apicem medio bilamellatum, apice dilatatum, rotundatum, apiculatum. Columna semiteres, clinandrio marginato altè excavato. Pollinia 2, biloba, sectilia, exactè ovata; utrumque caudiculâ crassâ distinctâ.——Herba caulescens, densè foliata. Folia petiolata basi vaginantia. Spica imbricata, lupulina, sessilis, terminalis.

1. Herpysma longicaulis. *Lindl. in Wall. Cat. no.* 7389.

Hab. in *Napalia, Wallich.* (*hab. s. sp.*)

Caulis longè procurrens et radicans, demum ascendens, palmaris, foliis densè tectus. Folia lanceolata, patentia, 3-4 poll. longa, in petiolum angustum acuminata, basi in vaginam membranaceam ¾ poll. longam dilatata. Spica sesquipollicaris, sessilis, oblonga, multiflora; bracteis oblongis glabriusculis floribus subæqualibus imbricata. Ovarium tomentosum. Sepala ovalia, glabra. Calcar rectum, ovarii dimidiam æquans.

Division V. DIURIDÆ.

CCXCI. DIURIS.

Diuris. *Smith in act. Linn.* 4. *p.* 222. *Swartz. act. holm.* 1800. *p.* 229. *t.* 3. *f. M. Brown, prodr.* 1. 315. *Endlich. gen. no.* 1584.

Perianthium subringens. Sepala lateralia linearia, elongata, labello supposita; supremum multo latius, subfornicatum. Petala unguiculata, patula. Labellum sessile, trifidum, ecalcaratum. Columna brevis utrinque lobo petaloideo aucta. Anthera mutica, loculis approximatis. Pollinia 2, biloba.——Herbæ terrestres Australasiæ, Tasmanniæ et Novæ Zelandiæ, glabræ; bulbis radicalibus indivisis. Folia radicalia linearia pauca. Scapus vaginatus. Flores lutei v. lutescentes, rariùs purpurei aut albi, majusculi, spicato-racemosi.

The species of this genus are probably very numerous. They are extremely difficult to distinguish when dried, without the most careful analysis of the lip and appendages of the column. The specimens in the British Museum are in many cases ill dried, and few in number, so that it is difficult

to ascertain more from them than is conveyed in the short specific phrases given in Brown's prodromus.

§ 1. Labellum basi bicarinatum.

§ 1. * *Labelli laciniæ subæquales.*

1. Diuris maculata. *Smith Exot. Bot. t.* 30. *R. Brown, prodr.* 315.

D. foliis filiformibus v. angustissimè ensiformibus scapo brevioribus, floribus maculatis, sepalis lateralibus petalis brevioribus, petalis rhombeis acutis, labelli bicarinati laciniis subæqualibus lateralibus oblongis subdenticulatis intermediâ subrotundâ planâ, columnæ laciniis linearibus acute incisis.

Hab. in *Australia*, ad Portum Jackson, *R. Brown.* (*hab. s. sp.*)

Petals speckled, with a purple claw. Back sepal with a dark curved band drawn half across the middle. Lip with purple blotches.

It is generally alleged that the markings upon the flowers of this genus are variable and not to be depended upon for specific distinctions; but Mr. Gunn finds them very permanent, and my observations confirm his statement.

2. Diuris pardina.

D. foliis ensiformibus canaliculatis scapi longitudine, floribus maculatis, sepalis lateralibus lineari-lanceolatis petalis æqualibus, petalis subrotundis, labelli bicarinati laciniis subæqualibus oblongis obtusis lateralibus integerrimis, columnæ laciniis acutis rectis sinuato-serratis.

Hab. in *Australiæ* orâ meridionali. (*hab. s. sp.*)

The back sepal has two deep eyes, with or without a broken purple border; the petals are bordered and blotched with purple, which colour also occupies the claw.

3. Diuris curvifolia.

D. foliis linearibus canaliculatis arcuatis scapo subtrifloro brevioribus, floribus maculatis, sepalis lateralibus linearibus petalis æqualibus, petalis oblongis obtusis, labelli bicarinati laciniis lateralibus linearibus paulò brevioribus apice denticulatis intermediâ cuneatâ rotundatâ integerrimâ, columnæ laciniis ovatis acutis serratis.

D. maculata. *Bot. Mag. t.* 3156. ?

Hab. in *Tasmannia, Gunn* 343. (*hab. s. sp.*)

Stem rather more than 6 inches high. Flowers rather larger than in *D. maculata*; petals whole coloured except on the claw, which is purple. Back sepal with two eyes connected by a band. Lip with a broad blotch in the middle of the central lobe and at the tip of each lateral lobe.

I have never seen any Diuris exactly like that figured in the Botanical Magazine, t. 3156. It is certainly not *D. maculata*, as it is named, but it may possibly be intended for this, which however has not the dorsal sepal toothed nor the side lobes of the lip so much serrated or so small as they are there represented.

4. Diuris palustris.

D. foliis filiformibus scapo corymboso æqualibus, floribus maculatis, sepalis lateralibus petalis nonnihil longioribus, petalis ovalibus obtusis, labelli

obsoletè bicarinati laciniis subæquilongis integerrimis rotundatis intermediâ oblatâ plicatâ, columnæ laciniis falcatis apice inæqualiter subserratis.

Hab. in *Tasmannia*; in paludibus, Decembr. *Gunn*. 933. (*hab. s. sp.*)

Stem not 6 inches high. Flowers small; petals with two deep purple stripes; lip blotched at the base and near the tips.

§ 1. * * *Labelli laciniæ laterales nanæ.*

5. Diuris emarginata. *R. Brown, l. c.*

D. labelli laciniâ intermediâ basi intùs bicarinatâ lateralibus duplò longiore, petalis emarginatis, foliis subulatis canaliculatis scapo ter brevioribus, spicâ paucifl orâ.

Hab. in *Australia* meridionali; ad sinum Regis Georgii, *R. Brown.* (*v. s. sp. in Mus. Brit.*)

The specimen in the British Museum is about 1½ foot long, with two flowers. It bears 3 filiform distant short leaves, the uppermost of which is little more than a sheath.

6. Diuris setacea. *R. Brown, l. c.*

D. "labelli laciniâ intermediâ basi intùs bicarinatâ lateralibus duplò longiore, foliis setaceis scapo 1-2-floro 4-5-ies brevioribus."

Hab. in *Australia* meridionali, *R. Brown*; ad sinum Regis Georgii, *Menzies.* (*v. s. sp. in Mus. Brit.*)

Scapus palmaris, tenuis, biflorus, vaginâ solitariâ foliaceâ dilatatâ ad ipsam basin. Bracteæ foliaceæ, lineari-lanceolatæ, pedicellis longis filiformibus nunc longiores nunc breviores. Flores lutei purpureo-punctati.

7. Diuris pedunculata. *R. Brown, l. c.*

D. labelli laciniâ intermediâ basi intùs carina duplici pubescente lateralibus triplò longiore, sepalis lateralibus labello parùm longioribus, petalis lanceolatis acutissimis, foliis scapo 2-3-floro longioribus.

Hab. in *Australia*; ad Portum Jackson, *R. Brown.* (*v. s. sp. in Mus. Brit.*)

A small plant about 6 inches high, with filiform leaves. Flowers the smallest in the genus. Petals very slightly spotted with purple; lip and upper sepal strongly veined with that colour.

8. Diuris lanceolata.

D. foliis linearibus scapi 1-2-flori longitudine, vaginis scapi 2-3 laxis herbaceis apice acuminatis cucullatis, sepalis lateralibus ascendentibus petalis paulò longioribus, petalis lanceolatis acutis, labelli bicarinati basi pubescentis laciniis lateralibus nanis serratis intermediâ ovatâ acutâ, columnæ laciniis cuspidatis integerrimis.

Hab. in *Tasmannia*; in uliginosis udisque. Nov. *Gunn* 934. (*hab. s. sp.*)

Before I examined the herbarium at the British Museum I supposed this plant to be *D. pedunculata*, under which name I gave specimens to some of my friends. It has, however, flowers at least four times as large.

9. Diuris aurea. *Smith Exot. Bot.* 1. *t.* 9. *R. Brown, l. c.*

D. foliis lineari-ensiformibus canaliculatis scapo 2-3-floro brevioribus, sepalis lanceolato-linearibus petalis æqualibus dorsali brevi rotundato obtuso, petalis ellipticis acutis, labelli bicarinati laciniis lateralibus linearibus submarginatis nanis intermediâ ovatâ acutâ.

D. spathulata. *Swartz in Schrad. n. Journ.* 1. 60.

Hab. in *Australia,* ad Portum Jackson, R. Brown; nec non in orâ meridionali. (*hab. s. sp.*)

Flowers large, yellow, unspotted.

10. Diuris longifolia. *R. Brown, l. c.*

D. foliis racemo 3-4-floro æqualibus, sepalis lateralibus petalis subduplò longioribus dorsali ovato rotundato, petalis oblongis obtusis, labelli bicarinati laciniis lateralibus nanis rotundatis intermediâ reniformi.

Hab. in *Australia* meridionali, *R. Brown.* (*hab. s. sp.*)

Flowers very large, purple. The plant seems to vary a good deal in size, my specimens being almost twice as large as those in the British Museum.

11. Diuris elongata. *Swartz. in Schrad. Journ.* 1. 59. *R. Brown, l. c.*

D. foliis linearibus scapo elato 2-4-floro dimidio brevioribus, sepalis lateralibus petalis ferè triplò longioribus, petalis oblongis, labelli bicarinati laciniis lateralibus nanis linearibus obliquè emarginatis intermediâ ovatâ undulatâ, columnæ laciniis linearibus acuminatis integris basi dilatatis cucullatis.

Hab. in *Australia,* ad Portum Jackson, *R. Brown;* in sylvestribus inter gramina, *A. Cunningham.* (*hab. s. sp.*)

Stem a foot and half high. Flowers large, whole coloured, apparently white.

12. Diuris alba. *R. Brown, l. c.*

D. foliis scapum subæquantibus, sepalis lateralibus petalis duplò longioribus, petalis ovalibus acutis, labelli bicarinati laciniis lateralibus linearibus obtusis intermediâ subcordato-ovatâ acutâ carinis apice rotundatis crenatis, columnæ laciniis linearibus acutis planis serrulatis.

Hab. in *Australia tropicâ, R. Brown;* in sylvis sinus Moreton, *A. Cunningham.* (*hab. s. sp.*)

Flower buds very long and narrow. Flowers white, whole coloured, smaller than in D. elongata, which this much resembles.

§ 2. Labellum basi ecarinatum, sæpiùs ob plicam per axin quasi unicarinatum.

§ 2. * *Labelli laciniæ laterales intermediâ minores.*

13. Diuris sulphurea. *R. Brown, l. c.*

D. foliis linearibus scapo 3-5-floro duplò brevioribus, floribus maculatis, sepalis lateralibus petalis nonnihil longioribus dorsali ovato bimaculato, petalis ovalibus acutis, labelli ecarinati medio parùm convexi laciniis lateralibus semiovatis intermediâ oblongâ obtusâ duplò brevioribus, columnæ laciniis falcatis integerrimis.

Hab. in *Australia,* ad Portum Jackson, *R. Brown,* in sylvestribus abundè Sept. *A. Cunningham; Tasmannia, Everett,* ad Circular Head, *Gunn,* 932. (*hab. s. sp.*)

By the late Mr. A. Cunningham this very distinct plant was regarded as *D. aurea,* and, following his opinion, I have given specimens away under that name. I find, however, by an examination of the British Museum, that it is Brown's *D. sulphurea.* It is readily recognized by the large dorsal sepal having two distinct round dark purple spots, while the petals have their claws only of that colour. The lip has also an irregular broad blotch in the middle.

14. Diuris pauciflora. *R. Brown, l. c.*

D. foliis subulatis canaliculatis scapo 1-2-floro 3-4-plò brevioribus, floribus immaculatis, sepalis lateralibus petalis æqualibus, petalis lato-ellipticis subacutis, labelli ecarinati basi tantum in medio elevati laciniis lateralibus ovatis rotundatis integerrimis intermediâ rhombeâ acutâ duplò brevioribus, columnæ laciniis linearibus undulatis.

Hab. in *Australia;* ad Portum Jackson, *R. Brown,* in sinu R. Georgii, *F. Bauer.* (*v. s. sp. in Mus. Brit. et hab. ic. comm. cel. Endlicher.*)

Stem about a foot high, with very short leaves clustered together at its base. The scape has from 1 to 3 close-pressed sheathing scales. The flowers are about the size of those of *D. sulphurea,* and seem to be unspotted. In Brown's Prodromus the leaves are by some inadvertence defined as being 3 or 4 times *longer* than the stem, instead of so much *shorter.*

15. Diuris filifolia. *Lindl. Swan R. n.* 226. *t.* viii. *B.*

D. foliis setaceis scapo multifloro univaginato multò brevioribus, floribus immaculatis, sepalis lateralibus petalis æqualibus, petalis ovalibus acutis, labelli lobo medio unicarinato ovato acuto complicato lateralibus rotundatis dentatis longiore.

Hab. in *Australia* occidentali, ad Swan River, *Drummond.* (*hab. s. sp.*)

Flowers yellow, much larger and more numerous than in the last, which it resembles in the leaves.

16. Diuris carinata.

D. foliis filiformibus scapo multifloro bivaginato multò brevioribus, floribus subsecundis maculatis, sepalis lateralibus petalis æqualibus, petalis oblongis obtusis, labelli lobo medio ad apicem usque carinato ovato obtuso lateralibus rotundatis integerrimis longiore, columnæ laciniis semiovatis falcatis integerrimis.

Hab. in *Australia* occidentali; ad Swan River, *Drummond.* (*hab. s. sp.*)

Stems 1 to 1½ foot high, with about 2 loose sheaths. Flowers yellow, the size of *D. sulphurea* and *pauciflora,* the base and tips of the petals and dorsal sepal stained with purple; the lip much blotched with the same colour.

17. Diuris laxiflora. *Lindl. Swan R. no.* 227.

D. foliis . . . . , caule multifloro, floribus flavis internodiis brevioribus, pedunculis longissimis capillaribus bracteis linearibus canaliculatis longioribus, labelli lobo medio subrotundo basi imâ plicato lateralibus multò minoribus margine postico denticulatis.

Hab. in *Australia* occidentali; ad Swan River, *Drummond.* (*hab. s. sp.*)

A tall species, of which I have not seen the leaves and lower part of the stem. The pedicels and ovary together are about 3 inches long, which is less than the length of the internodes. Each stem bears from 4 to 8 flowers, which seem to be dark yellow, with no spotting, but perhaps with some stains of purple.

18. Diuris Drummondii. *Lindl. Swan R. no.* 225.

D. foliis ensiformibus erectis scapo multifloro duplò brevioribus, floribus flavis secundis, sepalis petalis æqualibus, petalis ovalibus acutis, labelli lobo medio unicarinato rhombeo lateralibus rotundatis integerrimis duplò longiore.

Hab. in *Australia* occidentali; ad Swan River, *Drummond.* (*hab. s. sp.*)

A fine species, with flowers as large as those of *D. aurea.* The stems are stout and 1 to 1½ foot high. The leaves are as broad as those of a narrow-leaved leek, in some cases, but narrower in others. The flowers are not spotted except at the base of the lip, which is stained purple.

§ 2. ** *Labelli laciniæ subæquales.*

19. Diuris corymbosa. *Lindl. Swan R. n.* 228.

D. foliis ensiformibus linearibusque erectis scapo 1-3-floro brevioribus, floribus purpureis subcorymbosis, sepalis lateralibus petalis subæqualibus, petalis obovatis emarginatis, labelli lobis rotundatis subæqualibus intermedio convexo subemarginato basi imâ elevato, columnæ laciniis acutis crenatis.

Hab. in *Tasmanniâ,* ad Circular head abundè Sept. Oct. *Gunn* 931, necnon in *Australia* occidentali; Swan River, *Drummond,* ad sinum R. Georgii, *Collie.* (*hab. s. sp.*)

Stem from 4 inches to 1½ foot high. Flowers large, purple. A very handsome species, of which I have given away a few specimens under the name of *D. emarginata,* which the Banksian Herbarium shews to be a distinct species. The stems have from 1 to 2 leafy sheaths.

20. Diuris porrifolia. *Lindl. Swan R. n.* 229.

D. foliis lanceolatis linearibusque acuminatis scapo 4-6-floro monophyllo brevioribus, pedicellis bracteis foliaceis brevioribus, floribus maculatis, sepalis petalorum longitudine, petalis ovalibus acutis, labelli lobis oblongis rotundatis intermedio minore convexo cuneato medio elevato.

Hab. in *Australia* occidentali; ad Swan River, *Drummond.* (*hab. s. sp.*)

A span high. Flowers middle sized, racemose, purple with yellow mottling.

CCXCII. ORTHOCERAS.

Orthoceras. *Brown prodr.* 1. 316. *Endlich. gen. no.* 1583.

Perianthium galeatum, clausum. Sepala lateralia linearia, erecta, longissima. Petala nana, sub sepalo dorsali ovato galeato conniventia. Labellum sessile, trifidum, ecalcaratum. Columna brevis, utrinque lobo

petaloideo aucta. Anthera mutica, loculis approximatis. Pollinia 2, biloba.——Herbæ terrestres in Nova Hollandia orientali extra-tropica et Nova Zelandia indigenæ, Diurium habitu, sed bracteis herbaceis cymbiformibus et floribus clausis diversissimæ.

1. Orthoceras strictum. *R. Brown prodr.* 317.

O. bracteis ultra sepalum dorsale longè productis.

Hab. in *Australia*; prope Portum Jackson, R. Brown; rarò inter Appin et Illawarram, necnon in agro sterili fruticoso ultra vallem Wellington occidentem versus, Nov. Dec. *A. Cunningham.* (*hab. s. sp.*)

Of this singular plant I only possess the upper part of the inflorescence. Its lower bracts are an inch and half long, while it is not more than an inch to the point of the dorsal sepal. The closed up flowers look like a bird's head curved downwards between the two long ascending lateral sepals.

2. Orthoceras Solandri.

O. bracteis ultra sepalum dorsale vix productis.

Orthoceras strictum. *A. Cunn. Comp. Bot. Mag.* 2. 376.
Diuris Novæ Zelandiæ. *Ach. Rich. fl. nov. zel.* 163. *t.* 25. *f.* 1.
Ophrys cornuta. *Soland. MSS.* 1769.

Hab. in *Nova Zelandia*; in insula septentrionali Banks et Solander, A.D. 1769; in collibus inter filices, in sinu Insularum, ad Wangaroam, alibique, *R. Cunningham.* (*hab. s. sp. comm. cel. Cunn.*)

That this is distinct from the New Holland species I entertain no doubt; its very short bracts and smaller and narrower flowers sufficiently attest that; but I am unfortunately destitute of the means of stating the differences between the species more precisely. The plant is called *Makuku* by the N. Zealanders, not *Makukia*, as it would appear from Mr. Cunningham's notes, in my herbarium.

CCXCIII. PRASOPHYLLUM.

Prasophyllum. *Brown prodr.* 1. 317. *Endl. gen. no.* 1581.

Perianthium ringens. Sepala lateralia postica, distincta, v. basi cohærentia. Petala sepalis subæqualia. Labellum posticum, unguiculatum, adscendens, indivisum, ecalcaratum, sæpius laminâ adnatâ margine liberâ auctum. Columna trifida, laciniis lateralibus membranaceis, integris bifidisque. Anthera mutica, mucronata aut rostrata, loculis approximatis. Pollinia 2, biloba, apici stigmatico affixa.——Herbæ terrestres Australasicæ; bulbis indivisis. Caulis monophyllus, basi vaginis aliquot brevibus instructus. Folium teres, fistulosum, quandoque abbreviatum, vaginâ longissimâ. Flores spicati.

The species of this genus are most difficult to determine in a dried state, and require a careful revision by some botanist who can compare them when alive, and ascertain the limits of their variation. Mr. Gunn regards them as even more numerous than I do, but it is to be feared that some of the supposed species are only varieties.

§ 1. Sepala lateralia basi convexa.

a. *Columnæ laciniæ laterales apice bifidæ aut bidentatæ. Anthera mucronata aut rostrata.*

1. PRASOPHYLLUM brachystachyum.

P. sepalis acutissimis nudis lateralibus carnosis duplò dorsali membranaceo longioribus basi cohærentibus, petalis dorsali brevioribus acutissimis, labelli laminâ lanceolatâ basi obtusè bicarinatâ imberbi, laciniis columnæ bifidis, antheræ mucrone brevi.

Hab. in *Tasmannia;* Circular Head et Rocky Cape, Dec. Feb. terrâ sterili sabulosâ, nec non in collibus Hampshire, rarissimum, *Gunn*, 930. (*hab. s. sp.*)

Stems very slender, from 4 to 8 inches high, with one narrow close-pressed leaf a little below the flowers, which are small, and arranged in a short few flowered spike.

2. PRASOPHYLLUM rufum. *R. Brown, l. c.*

P. sepalis lateralibus distinctis; dorsali petalisque nudis, labelli laminâ obovato-cuneatâ apice denticulato marginibus brevissimè ciliatis, columnæ laciniis bifidis, antheræ mucrone setaceo.

Hab. in *Australia* ad Portum Jackson, R. Brown.

3. PRASOPHYLLUM nigricans. *R. Brown, l. c*

P. sepalis lateralibus basi cohærentibus dorsali petalisque nudis, labelli laminâ oblongo-ovatâ bicarinatâ imberbi, laciniis lateralibus columnæ triangularibus bidentatis; antheræ mucrone brevissimo.

Hab. in *Australiæ* orâ meridionali. *R. Brown.*

4. PRASOPHYLLUM truncatum.

P. folio spicâ multiflorâ longiore, ovariis subrotundis obovatisque, bracteis minimis squamæformibus, sepalis linearibus acuminatis lateralibus liberis, petalis linearibus obtusis, labelli laminâ petalis æquali bilamellatâ: dimidio superiore ovato undulato, columnæ laciniis inæqualiter bidentatis.

α. labello petalisque albis.

β. labello viridi, staturâ majore.

Hab. in *Tasmannia; α* in paludibus nunc mare inundatis juxta Circular head, Nov. Jan. *Gunn* 924, 925; *β.* Rocky Cape, Dec. *Gunn.* 928. (*hab. s. sp.*)

The tubercles of the root of this species are half two-lobed. The stem is from 1 to 1½ foot high, stouter and stronger in the variety *β*. It is nearly related to P. patens, from which its unequally two-lobed column wings distinctly separate it.

b. *Columnæ laciniæ laterales apice integræ, nunc latere altero emarginatæ. Anthera mutica.*

* Labellum laminâ adnatâ marginibus liberâ auctum; sensim apicem versus angustatum.

5. PRASOPHYLLUM patens. *R. Brown, l. c.*

P. ovariis obovatis bracteâ subrotundâ ter longioribus, sepalis acutis latera-

libus distinctis patentibus, labello longitudine sepalorum: dimidio superiore ovato oblongo undulato, columnæ laciniis obtusis hinc leviter emarginatis.

Hab. in *Australia;* ad Portum Jackson, R. Brown; in *Tasmanniâ,* collibus arenosis juxta mare, Dec. *Gunn.* 926, 927. (*hab. s. sp.*)

A sweet scented species, with dense spikes of flowers, which appear to be streaked with purple. Some of my specimens are two feet high, others not more than 6 inches.

6. Prasophyllum lutescens.

P. ovariis cylindraceis bracteis ovatis basi longioribus, sepalis carnosis lateralibus obtusè acuminatis connatis dorsali acuto, petalis obtusis, labelli dimidio superiore ovato obtuso undulato sepalis breviore, columnæ laciniis obtusis integerrimis.

β brevilabre; labello adhuc breviore.

Hab. in *Tasmanniâ;* in humidis circa Rocky Cape, Dec. *Gunn.* 922, 923. (*hab. s. sp.*)

Nearly allied to *P. patens,* from which it differs in having much more fleshy, yellowish, and apparently unstriped flowers, and especially in the shortness of the labellum, which, as Mr. Gunn observes, is turned more acutely backward.

7. Prasophyllum striatum. *R. Brown, l. c.*

P. ovariis cylindraceo-oblongis bracteâ ovatâ acuminatâ duplò longioribus, spicâ paucitlorâ, sepalis lateralibus longitudinaliter cohærentibus, labello oblongo obtuso sepalis æquali: marginibus undulatis, antherâ apice attenuatâ, columnæ laciniis linearibus integris.

Hab. in *Australia;* ad Portum Jackson, *R. Brown,* in littore sterili, Ap. Mai. *Cunningham.* (*hab. s. sp.*)

A small slender plant, with from 2 to 5 striped flowers in a loose spike.

8. Prasophyllum australe. *R. Brown, l. c.*

P. ovariis cylindraceis subpedicellatis bracteâ breviter acuminatâ vix duplò longioribus, sepalis apice attenuatis obtusis lateralibus infrà cohærentibus suprà distinctis, labello ovato apice undulato ultra laminam longè producto, columnæ laciniis lineari-lanceolatis integerrimis.

Hab. in *Tasmannia,* R. Brown; juxta Rocky Cape, abundè alibique, locis sterilibus, Dec. *Gunn.* 921. (*hab. s. sp.*)

A tall dark plant, almost black, with a long spike of closely packed flowers.

9. Prasophyllum macrostachyum. *R. Brown, l. c.*

P. ovariis cylindraceo-oblongis, bracteis lanceolatis pedicellos subæquantibus, spicâ elongatâ sepalis acutissimis lateralibus approximatis, columnæ laciniis antherâ brevioribus, folio dimidium caulis superius superante.

Hab. in *Australia;* ad Portum Jackson, *R. Brown.* (*v. s. sp. in Mus. Brit.*)

A very distinct species, with flowers no larger than those of *P. alpinum.*

10. Prasophyllum flavum. *R. Brown, l. c.*

P. ovariis cylindraceis subsessilibus bracteâ acutissimâ vix duplò longioribus, spicâ multiflorâ, sepalis acutiusculis lateralibus extra medium dis-

tinctis, columnæ laciniis antheram æquantibus, folio dimidio superiore caulis multoties breviore.

Hab. in *Australia*, ad Portum Jackson, R. Brown.

11. PRASOPHYLLUM elatum. *R. Brown, l. c.*

P. ovariis cylindraceis sessilibus bracteâ acutiusculâ duplo longioribus, sepalis acutis lateralibus infra distinctis supra leviter cohærentibus, labello undulato acuminato vix ultra laminam producto, columnæ alis linearibus obtusis hinc emarginatis antheræ longitudine.

Hab. in *Australia*; ad Portum Jackson, R. Brown, *Sieber*; Swan River, *Drummond*. (*hab. s. sp.*)

My Swan River specimens of this are from 3 to 4 feet high, with a spike of flowers 9 inches long.

12. PRASOPHYLLUM macrotys. *Lindl. Swan R. no.* 257.

P. ovariis cylindraceis subsessilibus bracteâ acutissimâ plus duplò longioribus, spicâ multiflorâ, sepalis acutiusculis lateralibus supernè distinctis, labelli obovati laminâ conformi emarginatâ, columnæ laciniis linearibus antherâ duplò longioribus, folio dimidium superius caulis subæquante.

Hab. in *Australia* occidentali; Swan River, *Drummond*. (*hab. s. sp.*)

Possibly this may be the same as *P. flavum*. It is a tall plant with the habit of *P. elatum*.

13. PRASOPHYLLUM giganteum. *Lindl. Swan R. no.* 256.

P. ovariis cylindraceis subsessilibus bracteâ acutâ plus duplò longioribus, sepalis acutis lateralibus supernè distinctis basi cohærentibus, labello oblongo-lanceolato undulato obtuso, columnæ laciniis linearibus obtusis antherâ paulò longioribus, folio dimidium superius caulis breviore.

Hab. in *Australia* occidentali; ad Swan River, *Drummond*. (*hab. s. sp.*)

Very near *P. macrotys* from which it chiefly differs in the form of the lip, and in the shorter column-lobes. The species from *P. australe* to the present are tall stout plants, difficult to distinguish and perhaps not specifically different.

* * Labellum laminâ auctum, abruptè acuminatum.

14. PRASOPHYLUM alpinum. *R. Brown, l. c.*

P. ovariis obovatis, bracteis subrotundis pedicellos subæquantibus, sepalis acutis lateralibus approximatis, labelli dimidio superiore lineari-lanceolato undulato: laminâ versus basin evanescente, columnæ laciniis obtusissimis hinc emarginatis.

Hab. in *Tasmannia*; R. Brown; inter rupes, rarum, *Gunn*, 929. (*hab. s. sp.*)

Mr. Gunn informs me that this plant possesses a delightful fragrance like the Hyacinth; some others, as *P. patens*, have a slight smell, but others are inodorous. It appears to vary a good deal in size, and in the length of the spike, the flowers of which are however always distinct, and not at all imbricated. I find the lip occasionally a little downy at the back.

15. PRASOPHYLLUM affine.

P. ovariis obovatis, bracteis subrotundis pedicellos superantibus, sepalis acutis lateralibus approximatis, labelli dimidio superiore lineari-lanceolato undulato : laminâ completâ, columnæ laciniis hinc emarginatis.

Hab. in *Australia* ; orâ meridionali ? (*hab. s. sp.*)

Perhaps this is a mere variety of *P. alpinum,* which it much resembles. its spike is, however, more dense, and the lamina of the labellum, instead of disappearing in the middle, is continued quite down to the base. I do not know out of what collection my specimens were obtained, but I believe they are from the south coast.

16. PRASOPHYLLUM rostratum.

P. ovariis subrotundo-obovatis sessilibus, bracteis minutissimis, spicâ rarâ multiflorâ, sepalis linearibus setaceis lateralibus liberis, labelli plani dimidio inferiore orbiculari superiore lineari obtuso bicarinato : laminâ cæterùm evanidâ, columnæ laciniis semiovatis hinc emarginatis.

§ 2. Sepala lateralia basi saccata.

20. Prasophyllum gibbosum. *R. Brown, l. c.*

P. ovariis cylindraceis, spicâ multiflorâ imbricatâ, sepalis obtusiusculis lateralibus papillosis cohærentibus basique saccatis, petalis spathulatis lævibus, labelli laminâ oblongâ obtusâ papillosâ, columnæ laciniis membranaceis obtusis hinc medio unidentatis, antheræ mucrone nullo.

Hab. in *Australia occidentali et meridionali;* ad sinum Regis Georgii, *Collie.* (*hab. s. sp. comm. soc. Linn. Lond.*)

Stem from 4 inches to more than a foot in height, with a single leaf as long as itself, near the middle, otherwise naked. Flowers membranous, striated, in a very dense blunt spike.

21. Prasophyllum parvifolium. *Lindl. Swan R. no.* 260.

P. ovariis clavatis, spicâ paucitlorâ obtusâ, sepalis acuminatis lateralibus basi saccatis, petalis conformibus, labelli laminâ lanceolatâ undulatâ obtusâ basi bilamellatâ, columnæ laciniis linearibus obtusis, antherâ apiculatâ, rostello longissimo petaloideo.

Hab. in *Australia* occidentali; Swan River, *Drummond.* (*hab. s. sp.*)

A slender plant with a more thin spike and yellower flowers than P. gibbosum. Its stem has a short solitary linear spreading sheath above the middle.

22. Prasophyllum fimbriatum. *R. Brown. prodr.* 319.

P. sepalis lateralibus infrà approximatis et juxta basin gibbosis: dorsali petalisque ciliatis, labelli laminâ longissimè fimbriatâ, laciniis columnæ bipartitis, antheræ rostro elongato.

Hab. in *Australia;* ad Portum Jackson, R. Brown, in ericetis sterilibus ad littora, Maio, *R. Cunningham.* (*hab. s. sp.*)

A slender plant about a foot high, with a single linear spreading sheath a little below the small brownish purple flowers. Spike many-flowered, 1-1½ inch long.

CCXCIV. BURNETTIA.

Perianthium connivens. Sepala et petala linearia, æqualia, libera. Labellum multò minus, cuneatum, indivisum, subunguiculatum, inappendiculatum. Columna erecta, petaloideo-marginata, basi in lobulum utrinque producta. Anthera erecta, dorsalis, 2-locularis, apiculata; clinandrio plano, immarginato. Stigma ovatum, obtusum, cum antherâ parallelum.——Herba pusilla, Tasmannica, caule bifloro, aphyllo ?, laxè vaginato.

This very curious genus is named after the late Mr. Gilbert T. Burnett, the first Professor of Botany in King's College, London, and author of the *Outlines of Botany* (2 *vols.* 8*vo. Lond.* 1835), a considerable collection of Botanical information.

It differs from *Prasophyllum* in the absence of lateral column-lobes; from *Genoplesium* in the petals being distinct from the column, and the labellum flat.

1. Burnettia cuneata.

Hab. in *Tasmannia*; omnium rarissima, in solo udo sabuloso juxta Rocky cape, Dec. *Gunn* (947) (*hab. s. sp.*)

Caulis cum floribus vix bipollicaris. Folia præter squamas duas caulis cucullatas, obtusas, herbaceas, vaginantes nulla. Flores duo pedicellati. Bracteæ ovato-lanceolatæ, pedicellis paulò longiores. Sepala exsiccata 4 lineas longa, linearia, acuta. Labellum multò brevius, unguiculatum, cuneatum, apiculatum, versus apicem serrulatum, leviter pubescens. Columnæ margo apice oblique abscissus, basi in lobulum planum subtruncatum utrinque deorsùm productus.

Of this rare plant 4 specimens only had been discovered at the date of Mr. Gunn's last despatch. Of these one was destroyed by me in the operation of examining its structure, one is in my herbarium, and the other two form part of the collection of its zealous discoverer.

CCXCV. GENOPLESIUM.

Genoplesium. *R. Br. prodr.* 1. 319. *Endl. gen. no.* 1582.

Perianthium ringens. Sepala lateralia longiora. Petala basi cum columna connata. Labellum posticum, indivisum, ecalcaratum, basi cucullatum. Columna semibifida, laciniis lateralibus nullis. Anthera loculis approximatis. Pollinia.——Herba in Nova Hollandia orientali extra-tropica indigena, habitu Prasophylli.

1. Genoplesium Baueri. *R. Brown, prodr.* 319.

Hab. in *Australia*; ad Portum Jackson, R. Brown.

Division VI. THELYMITRIDÆ.

CCXCVI. THELYMITRA.

Thelymitra. *Forst. gen. n.* 49. *Swartz. act. holm. p.* 229. *t.* 3. *f.* L. *Brown prodr.* 1. 314. *Endl. gen. pl. no.* 1586.

Perianthium regulare. Sepala petalis æqualia, semipatentia. Labellum sessile, ecalcaratum, perianthii foliolis conforme. Columna bifida; clinandrio petaloideo cucullato, apice trifido, lobis lateralibus penicillatis barbatisve aut rarius nudis. Anthera intramarginalis, clinandrii lobo intermedio demissius inserta, mutica v. mucronata, loculis bilocellatis. Pollinia 4, stigmatis glandulæ affixa. Stigma omninò liberum.——Herbæ terrestres Australiæ extratropicæ et Novæ Zelandiæ, glabræ; radicibus fasciculatis bulbiferis. Caulis monophyllus vaginatus. Flores laxè spicati utplurimùm cœrulei, albi v. carnei, rariùs flavi, sub sole aperti, tempore nebuloso clausi.

A. *Columnæ lobis lateralibus latâ basi sessilibus.*

1. Thelymitra fusco-lutea. *R. Br. prodr.* 315.

T. perianthio patulo, cuculli laciniis lateralibus conniventibus connatis lacero-fimbriatis sessilibus margine postico villosis; intermediâ extrusâ erectâ nudâ, foliis lanceolatis glabris.

Hab. in *Australia* meridionali, R. Brown; ad Swan River, *Drummond.* (*hab. s. sp*)

A stout species 1½-2 feet high. Flowers about 6 or 8 in a raceme, large, yellow, with numerous broken streaks of brown. Sepals and petals acute.

2. Thelymitra stellata. *Lindl. Swan R. pl. no.* 212.

T. folio radicali oblongo glabro, racemo cylindraceo, floribus fuscis? stellato-patentibus: laciniis acuminatis, cuculli laciniis lateralibus fimbriatis margine postico pulvinatis villosis: intermediâ carnosâ galeatâ breviore dorso tuberculatâ.

Hab. in *Australia* occidentali; ad Swan River, *Drummond.* (*hab. s. sp.*)

Stem 1-leaved, a foot or more high, quite smooth. Two membranous sheaths below the leaf. Flowers numerous, when dry coriaceous and deep brown.

3. Thelymitra carnea. *R. Brown l. c.*

T. perianthio connivente, cuculli laciniis extimis denticulatis imberbibus intermediâ transversâ glabrâ, folio lineari brevi, scapo flexuoso 1-3-floro.

Hab. in *Australia*; ad Portum Jackson, R. Brown; ericetis humidis, juxta Paramattam, Oct. Nov. *A. Cunningham; Tasmannia, Herb. Hooker.* (*hab. s. sp.*)

A slender plant with the habit of a Macdonaldia. Stem from 6 inches to a foot high. Flowers small.

4. Thelymitra javanica. *Blume Bijdr. l.*

T. "perianthio patulo, cuculli laciniis lateralibus brevissimis penicillatis, lobo medio nudo emarginato edentulo, spicâ 3-5-florâ."

Hab. in *Javâ*; summo montis Gede, Blume.

B. *Columnæ lobis lateralibus pedunculatis stuposis.*

1. Cucullus indivisus aut emarginatus glaber.

5. Thelymitra macrophylla. *Lindl. Swan R. no.* 213.

T. folio radicali erecto lanceolato, racemo elongato cylindraceo, floribus purpureis, cuculli laciniis lateralibus parvis subsessilibus stuposis: intermediâ majore fornicatâ glabrâ indivisâ.

Hab. in *Australia occidentali*; ad Swan River, *Drummond.* (*hab. s. sp.*)

A tall species, apparently at least 2 feet high. Raceme about 20 flowered.

6. Thelymitra arenaria.

T. folio lineari, racemo 2-6-floro, cuculli emarginati glabri laciniis lateralibus petiolatis stuposis, floribus purpureis patulis.

Hab. in *Tasmannia*; prope Circular Head, solo arenoso, Nov. *Gunn.* 937. 943. (*hab. s. sp. comm. cel. Gunn.*)

A slender plant 1½ to 2 feet high. Flowers middle sized.

7. THELYMITRA nuda. *R. Brown, l. c.*

T. folio angusto ensiformi canaliculato, spicâ multiflorâ, cuculli laciniis extimis penicillatis petiolatis intermediâ emarginatâ lobulis rotundatis integris.

β. grandiflora; floribus majoribus, cucullo bilobo.

Hab. in *Tasmannia,* R. Brown; solo argillaceo juxta mare, nec non in pratis salinis, et rupium fissuris, *Gunn* 942, *β*. Id. 940. (*hab. s. sp. comm. cel. Gunn.*)

Stem. 1 to 1½ feet high. Flowers pale blue with a pink shade, or of a fine bright pink, according to Mr. Gunn. The flowers of *β* are considerably larger than in *a*, and the stem stouter and shorter.

8. THELYMITRA Forsteri. *Swartz. act. holm.* 1800. *p.* 228. *Ach. Rich. Fl. Nov. Zel.* 165. *t.* 25. *f.* 2. *A. Cunn. in Comp. Bot. Mag.* 2. 376.

T. folio ensiformi canaliculato, racemo 4-7-floro, perianthio erectiusculo patulo, cuculli laciniis extimis pedicellatis stuposis intermediâ cuneatâ rotundatâ emarginatâ.

T. longifolia. *Forst. gen. char.* 49.
Serapias regularis. *Forst. prodr. n.* 312.

Hab. in *N. Zelandia*; in filicetis apricis, solo frigido argillaceo, ad insularum sinum, alibique, Oct. Nov. *A. Cunningham.* (*hab. s. sp.*)

Very near *T. nuda,* from which it differs in being rather more slender, with smaller less spreading flowers, and the middle lobe of the cucullus wedge-shaped. According to A. Cunningham the sepals are purple and the petals white.

9. THELYMITRA versicolor.

T. folio lineari, racemo paucifloro, floribus patulis, cuculli laciniis lateralibus pedicellatis stuposis intermediâ bilobâ margine inflexâ.

Hab. in *Tasmannia, Gunn* 943. (*hab. s. sp.*)

A smaller plant than T. nuda, with very narrow leaves, and a stem not more than a span high.

10. THELYMITRA angustifolia. *R. Br. prodr. l. c.*

T. perianthio patulo, cuculli laciniis extimis penicillatis intermediâ dorso nudâ emarginatâ lobulis dentatis, spicâ pauciflorâ, folio scapum æquante.

Hab. in *Australia,* ad Portum Jackson, R. Brown.

11. THELYMITRA pauciflora. *R. Brown, l. c.*

T. folio filiformi, cucullo perianthio patulo dimidio breviore: laciniis extimis penicillatis petiolatis: intermediâ dorso fornicatâ nudâ emarginatâ lobulis rotundatis integris, spicâ pauciflorâ.

Hab. in *Australia,* ad Portum Jackson, *R. Brown*; in *Tasmannia,* in campis prope Circular Head solo sterili arenoso, Nov. *Gunn* 935. (*hab. s. sp.*)

A very slender plant less than a foot high, with from 1 to 2 flowers on a scape.

12. THELYMITRA graminea. *Lindl. Swan R.* 216.

T. folio radicali lineari, racemo secundo multifloro, floribus purpureis, cuculli laciniis lateralibus stuposis unguiculatis intermediâ fornicatâ integerrimâ glaberrimâ.

Hab. in *Australia* occidentali; ad Swan River, *Drummond*. (*hab. s. sp.*)

A very slender species near *T. nuda*, from which it differs in the form of the middle lobe of the cucullus.

2. Cucullus emarginatus, margine vel per totam superficiem glandulosus.

13. THELYMITRA villosa. *Lindl. Swan R. no.* 211. *t. VIII. c.*

T. folio radicali oblongo apiculato subtùs villoso caulinis linearibus acuminatis glabris, racemo cylindraceo, floribus luteis, cuculli laciniis lateralibus glandulosis recurvis intermediâ denticulatâ emarginatâ.

Hab. in *Australia* occidentali; ad Swan River, *Drummond*. (*hab. s. sp.*)

A very fine species with large stellate yellow flowers.

14. THELYMITRA crinita. *Lindl. Swan R. no.* 214.

T. folio radicali oblongo apiculato glabro, racemo cylindraceo, floribus purpureis, cuculli laciniis lateralibus barbatis unguiculatis intermediâ fornicatâ emarginatâ dorso glanduloso-villosâ.

Hab. in *Australia* occidentali; ad Swan River, *Drummond*. (*hab. s. sp.*)

Stems 1½ to 2 feet high. Flowers very large.

15. THELYMITRA aristata.

T. folio ensiformi canaliculato vaginisque acutissimis, spicâ multiflorâ, bracteis aristatis, cuculli laciniis lateralibus pedicellatis villosis intermediâ emarginatâ glanduloso-serratâ.

Hab. in *Tasmannia*; solo sterili sabuloso, ad ripas fl. Welcome, alibique, Nov. et Dec. *Gunn* 939, 941. (*hab. s. sp.*)

A very stout species, 1 to 1½ foot high. Flowers the size of *Th. nuda*.

16. THELYMITRA tigrina. *R. Brown, l. c.*

T. "perianthio patulo maculato, cuculli laciniis lateralibus distinctis stuposo-barbatis; intermediâ breviore cristatâ, foliis linearibus canaliculatis."

Hab. in *Australia* meridionali, R. Brown.

Flowers yellow, spotted with brown. Flowers small, sepals and petals very obtuse.

3. Cucullus trilobus.

17. THELYMITRA campanulata. *Lindl. Swan R.* 214.

T. folio radicali lineari, racemo secundo multifloro, floribus purpureis campanulatis, cuculli laciniis lateralibus subulatis apice barbatis intermediâ tripartitâ dorso glandulosâ.

Hab. in *Australia* occidentali; ad Swan River, *Drummond*. (*hab. s. sp.*)

Stems $1\frac{1}{2}$ to 2 feet high, very slender. Lateral divisions of the middle lobe of the cucullus emarginate smooth, the central only glandular at the back.

18. THELYMITRA ixioides. *Smith Exot. Bot.* 1. *t.* 29. *R. Brown, l. c.*

T. perianthio patulo, cuculli laciniis lateralibus penicillatis; intermediâ trifidâ; lobulis lateralibus apice erosis medio breviore multò latiore dorso glanduloso, spicâ multiflorâ.

Hab. in *Australia* orientali; ad Portum Jackson, *R. Brown.* (*hab. s. sp. comm. cel. Brown.*)

19. THELYMITRA canaliculata. *R. Brown, l. c.*

T. "perianthio patulo, cuculli laciniis extimis penicillatis; intermediâ dorso nudo multifidâ lobulis corrugatis; exteriore longiore remotiore, spicâ multiflorâ."

Hab. in *Australia tropicâ,* R. Brown.

20. THELYMITRA iridioides. *Sieb. fl. nov. holl.* 168.

T. folio angusto ensiformi plano, spicâ elongatâ multiflorâ, cuculli laciniis lateralibus unguiculatis stuposis intermediâ trilobâ: lobis lateralibus erosis intermedio verrucoso.

Hab. in *Australia, Sieber.* (*hab. s. sp.*)

Stem $1\frac{1}{2}$ foot high. Flowers numerous, apparently purple, the size of *T. nuda.*

21. THELYMITRA juncifolia.

T. folio lineari, spicâ 1-5-florâ, floribus parvis purpureis variegatis, cuculli membranacei laciniis lateralibus petiolatis fimbriatis intermediâ trilobâ: lobis lateralibus cuneatis erosis centrali granuloso.

Hab. in *Tasmannia, Gunn* 936. (*hab. s. sp.*)

A small species resembling *T. pauciflora.* Flowers spotted with dark marks, according to Mr. Gunn.

22. THELYMITRA media. *R. Brown, l. c.*

T. "perianthio patulo, cuculli laciniis extimis penicillatis; intermediâ dorso nudo trifidâ: lobulo medio dimidio breviore emarginato, spicâ multiflorâ."

Hab in *Australia;* ad Portum Jackson, R. Brown.

CCXCVII. EPIBLEMA.

Epiblema. *Brown prodr.* 1. 315. *Endlich. gen. no.* 1585.

Perianthium subregulare. Sepala et petala æqualia, patula. Labellum unguiculatum, ecalcaratum, ungue canaliculato, marginibus callosis e columnæ basi productis, laminâ integrâ, basi processibus filiformibus fasciculatis. Columna nana, petaloideo-marginata, clinandrio excavato, integro. Stigma obcordatum. Anthera intramarginalis, mutica. Pollinia

2, biloba.———Herba Australasica, terrestris, habitu Thelymitræ, floribus cæruleis, speciosis.

This genus differs from Thelymitra, of which it has all the habit, not only in its unguiculate lip with long slender processes at the base, but also in the anther-bed not being cucullate.

1. Epiblema grandiflorum. *R. Brown prodr.* 315.

Hab. in *Australia* meridionali ; et occidentali ; sinu regis Georgii, *R. Brown ;* Swan River, *Drummond.* (*hab. s. sp.*)

Caulis ferè sesquipedalis, glaberrimus, teres. Folium solitarium, filiforme, vaginans, recurvum, caule multo brevius. Squamæ 2, distantes, acutissimæ, vaginantes, in scapum. Racemus 2-5-florus, subcorymbosus. Pedicelli filiformes, ultra semunciam longi, bracteas lanceolatas canaliculatas acutas superantes. Sepala petalis paulò angustiora, omnia ovata acuta ; lateralia cum labello basi bilineata ; dorsale cum petalis striatum et maculatum.

Note. The total number of Orchidaceous plants belonging to the Tribe Neotteæ is as follows ;

Described	260
Doubtful	10
Total	270

Their geographical arrangement is as stated on the next page.

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropics.	South America beyond the tropic.	South Africa.	Mauritius, &c.	Africa within the tropics.	North Africa.
250. Ponthieva	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
251. Pterichis	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
252. Cryptostylis	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.
253. Zosterostylis	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.
254. Gomphichis	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
255. Stenoptera	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.
256. Altensteinia	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.
257. Cranichis	.	.	.	.	.	.	.	.	.	.	.	8	.	.	.	.	.
258. Tripleura	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
259. Chlorosa	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
260. Rophostemon	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
261. Prescottia	.	.	.	.	.	.	.	.	.	.	.	11	.	.	.	.	.
262. Listera	2	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
263. Neottia	1	2	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
264. Calochilus	.	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.
265. Epipactis	4	1	1	3	.	.	.	.	.	.	.	.	.	.	.	.	.
266. Cnemidia	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
267. Spiranthes	3	2	10	1	1	1	2	1	.	1	.	24	6	.	.	.	1
268. Stenorhynchus	.	.	.	.	.	.	.	.	.	.	.	9	1	.	.	.	.
269. Sauroglossum	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
270. Pelexia	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.
271. Plexaure	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
272. Chloidia	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.
273. Zeuxine	.	.	.	.	4	1	1	.	.	.	.	.	.	.	.	.	.
274. Monochilus	.	.	.	1	2	2	.	.	.	.	.	.	.	.	.	.	.
275. Cheirostylis	.	.	.	.	1	1	1	.	.	.	.	.	.	.	.	.	.
276. Myoda	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
277. Hæmaria	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
278. Hylophila	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
279. Ætheria	.	.	.	2	.	.	3	.	.	.	.	.	.	.	1	.	.
280. Goodyera	1	1	3	1	.	1	7	1	.	.	.	2	.	.	1	.	1
281. Eucosia	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
282. Georchis	.	.	.	1	1	1	.	.	.	.	.	.	.	.	.	.	.
283. Macodes	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
284. Tropidia	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.
285. Ulantha	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
286. Anæctochilus	.	.	.	.	3	1	4	.	.	.	1	.	.	.	.	.	.
287. Galera	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
288. Physurus	.	.	1	.	.	.	1	.	.	.	.	13	.	.	.	.	.
289. Baskervilla	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
290. Herpysma	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
291. Diuris	.	.	.	.	.	.	.	.	.	20	.	.	.	.	.	.	.
292. Orthoceras	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.
293. Prasophyllum	.	.	.	.	.	.	.	.	.	22	.	.	.	.	.	.	.
294. Burnettia	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
295. Genoplesium	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
296. Thelymitra	.	.	.	.	.	.	.	.	.	22	.	.	.	.	.	.	.
297. Epiblema	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Total	11	6	19	11	16	10	28	3	.	77	1	90	7	.	2	.	2

ORCHIDACEÆ.

Tribe VII. Cypripedeæ.

Stamina 3, quorum lateralia fertilia intermedium sterile. Pollen granulosum, demum in massam pulticeam subliquescens. Stylus semiliberus. Stigma in areolas 3 divisum, staminibus oppositas.

CCXCIX. CYPRIPEDIUM.

Cypripedium. *Linn. gen. pl.* 1376.

Perianthium patens. Sepala lateralia connata aut distincta, labello supposita. Petala libera, sæpius angustiora. Labellum inflatum, margine utrinque auriculato inflexo. Columna nana. Stamina 3, quorum unum sterile centrale dilatatum inflexum, et 2 fertilia lateralia. Antheræ sub stamine sterili latentes, subrotundæ, 2-loculares. Pollen pulticeo-granulosum. Stylus subliber, teres, stigmate disciformi terminatus.—— Herbæ terrestres utriusque orbis, ab equatore ferè ad circulum arcticum vigentes. Folia radicalia aut caulina, coriacea aut plicata. Flores solitarii racemosi v. paniculati, speciosi.

1. Foliosa, *caule polyphyllo, sepalis anticis omninò connatis.*

1. Cypripedium parviflorum. *Salisb. in act. linn.* 1. 77. *t.* 2. *f.* 2. *Bot. Mag. t.* 3024.

C. caule folioso 1-2-floro, foliis ovalibus acuminatis, stamine sterili triangulari, labello depresso petalis spiralibus lineari-lanceolatis breviore, sepalo dorsali ovato acuminato antico integro latiore.

Hab. in *America septentrionali*; Canada, *Hooker*; Virginia, Willd.; sylvis fertilibus umbrosis a New Jersey ad Carolinam, Pursh; Canada, *Goldie.* (*hab. s. sp.*)

Sepals and petals dull chocolate brown. Labellum bright yellow with a few crimson spots at the orifice. Flowers very fragrant.

Well distinguished in the Botanical Magazine from *C. parviflorum* by Sir W. Hooker, who states that the sterile stamen is the same in both those species, or only possesses occasional trifling differences.

2. Cypripedium pubescens. *Willd. Hort. Berol.* 1. 13. *t.* 13, *Hooker in Bot. Mag. t.* 3024. A.

C. caule folioso 1-bifloro, foliis ovalibus acutis, stamine sterili triangulari,

labello compresso petalis linearibus spiralibus breviore, sepalis æqualibus integris dorsali lanceolato acuminato.

C. parviflorum. *Bot. Mag. t.* 911.
C. flavescens. *Redout. lil. t.* 90.
C. calceolus. *Mich. bor. am.* 2. 161.

Hab. in *America septentrionali;* collibus apricis inter frutices, Pennsylv. ad Carolin. Pursh; inter sylvas, Beck; Canada *Goldie;* mont. Alleghany, *Drummond.* (*hab. s. sp.*)

Flowers scentless, larger and paler than in *C. parviflorum.*

I take the characters which distinguish those two species from Sir W. Hooker, who, in the Botanical Magazine, t. 3024, has well explained their differences. They are very difficult to distinguish when dry. Both are closely allied to C. calceolus. I have occasionally found the lower sepal bidentate, but that circumstance is very unusual.

3. Cypripedium candidum. *Willd. sp. pl.* 4. 142.

C. caule folioso 1-floro, foliis basi angustatis apice acutis, bracteâ cucullatâ, stamine sterili (lanceolato W.), sepalis integris petalisque spiralibus lineari-lanceolatis subæqualibus labello compresso longioribus.

Hab. in *Americâ boreali;* Pennsylvania, Muhlenberg; Canada in pratis ad ripas fl. S. Clair, prope arcem Gratiot, *Pitcher.* (*hab. s. sp. comm. cel. Torrey.*)

I have only seen one specimen of this plant which has the leaves tapering a little to the base, a white labellum, and few hairs upon the flowers, which are about the size of those of *C. parviflorum.* The form of the lip is not to be determined from my materials.

4. Cypripedium spectabile. *Swartz. act. holm.* 1800, *p.* 251. *Salisb. in act. Linn.* 1. 78, *t.* 3. *f.* 3. *Willd. sp. pl.* 4. 144. *Bot. Reg. t.* 1666.

C. caule folioso 1-2-floro, stamine sterili cordato-ovato obtuso, sepalis subæqualibus oblongis obtusis indivisis petalis lanceolatis planis latioribus et longioribus, labello petalis longiore ventricoso subsulcato.

C. album. *Ait. Kew. ed.* 1. 3. 303. *Bot. Mag. t.* 216.
C. canadense. *Mich. bor, am,* 2. 161.
C. reginæ. *Walt. Carol.* 222. *fide Pursh.*

Hab. in *America septentrionali;* in paludibus sphagnetisque, præsertim ad latera montium a Canada ad Carolinam, Pursh. *Goldie,* &c. (*hab. s. sp. et v. v. c.*)

This remarkable plant is the finest of the United States Cypripediums, and is not uncommon in the gardens of this country, its roots being periodically imported. It, however, seldom lives above a year or two after its arrival. Those who manage it the best treat it as a greenhouse plant, keeping it constantly under glass, in a moderately warm atmosphere, and very near the light until its leaves have withered, when it is removed to a dry shelf till its growing season returns. Except in the colour of the flower, it is much like the Siberian *C. macranthon,* which, however, has the front sepal bifid.

5. Cypripedium molle. *Lindl. in Benth. pl. Hartw. p.* 72. *no.* 517.

C. caule folioso multifloro, floribus axillaribus pedunculis ovariisque villosis, stamine sterili oblongo cuspidato, sepalis subæqualibus acutis indivisis, petalis minoribus conformibus basi intùs barbatis, labelli petalis æqualis oblongi ore truncato plano.

Hab. in *Mexico*; in quercetis ad San Miguel Sola, *Hartweg*. (*hab. s. sp.*)

Nearly related to *C. spectabile*, but the flowers are not half the size, and appear from the axils of the uppermost 6 or 8 leaves.

6. Cypripedium palmifolium.

C. caule angulato villoso piloso multifloro, foliis lanceolatis acuminatis plicatis basi angustatis suprà glabris subtùs pilosis superioribus sensim in bracteas lineari-lanceolatas mutatis, racemo simplici terminali multifloro, stamine sterili ovato acuto, sepalis glabriusculis ovalibus integris subæqualibus labello brevioribus, petalis linearibus acuminatis basi ciliatis, labello elliptico depresso.

Hab. in *Guayanâ Anglicâ*, in pratis sabulosis, *Schomburgk*. (*hab. s. sp.*)

"Called by the Indians *Sewarer*. It is found upon sandy savannahs, is often 5 or 6 feet high; stem and leaves dark green; sepals light straw colour; labellum yellow, spotted with purple. *Schomburgk in litt.* The leaves are hard like those of a Palm, or a Sobralia, and gradually diminish towards the tip of the stem, where they become narrow bracts to several flowers about the size of C. pubescens. What appears to be the same species in fruit exists in Dr. von Martius' herbarium without locality; it has a long narrow raceme of 20 flowers subtended by ovate ciliated hairy bracts and triangular fruit between 2 and 3 inches long.

2. Foliosa; *caule polyphyllo, sepalis lateralibus apice liberis.*

7. Cypripedium Calceolus. *Linn. sp.* 1346. *Swartz. act. holm.* 1800. *p.* 251. *Salisb. in act. Linn.* 1. 76 *t.* 2. *f.* 1. *Fl. Dan. t.* 999. *Nees ab Esenb. jun. ic. fl. germ.*

C. caule folioso, foliis ovalibus acutis, stamine sterili ovato obtuso, sepalis ovatis acuminatis subæqualibus labello longioribus antico bidentato, petalis linearibus acuminatis rectis, labelli ore constricto venis centralibus pilosis.

Hab. in *Europâ* mediâ et septentrionali, nec ut videtur in terris australioribus; nec non in *Asiâ* septentrionali: mont Altaic. Ledebour; Dahuria, *Fischer*. (*hab. s. sp.*)

The straight petals of this plant well distinguish this species from *C. pubescens* and *parviflorum*, which it much resembles. The former has sometimes, but very rarely, the lower sepal bidentate.

Quid sit C. Calceolus. *Thunb. jap.* 30? nescio.

8. Cypripedium cordigerum. *Don prodr.* 37.

C. caule folioso, foliis ovalibus acutis, stamine sterili oblongo obtuso subcordato, sepalis ovatis acuminatis subæqualibus labello longioribus antico apice fisso, petalis lineari-lanceolatis acuminatis rectis, labelli ore constricto.

Hab. in *India septentrionali*, *Wallich*, *Royle*. (*hab. s. sp. et v. ic. pict.*)

If the flowers of this plant were not white, with pale green sepals and petals, I should have no hesitation in regarding it as a mere variety of *C. Calceolus*, from which I can distinguish it by no satisfactory character; and I am very much inclined to think that when further examined it will be found to merge in our European species, which has already been found

in Dahuria, and which, if Thunberg's *C. Calceolus* is rightly named, must also extend into Japan.

9. CYPRIPEDIUM montanum. *Douglas MSS.*

C. caule folioso 2-3-floro, foliis ovalibus acutis, stamine sterili ovato acuto, sepalis lanceolatis acuminatis labello longioribus antico bidentato, petalis linearibus acuminatis spiralibus, labello subgloboso.

Hab. in *Americâ boreali* occidentali, *Douglas*, (*hab. s. sp.*)

A very fine species, with a lip apparently white, and of the size and form of *C. spectabile*. The sepals are exceedingly acuminated and as much as 2½ inches long.

10. CYPRIPEDIUM passerinum. *Richardson in Franklin, app. 762. Hooker, fl. bor. am. 2. 205. t. 206.*

C. caule folioso unifloro, foliis ovalibus acutis, stamine sterili elliptico-cordato obtuso, sepalis oblongis obtusissimis antico minore bidentato, petalis angustioribus obtusissimis labello obovato ore rotundato contracto subæqualibus.

C. parviflorum. *Richardson in Franklin, app. ed.* 1. 340.

Hab. in *America boreali* in pinetis; a flumine Saskatchewan ad gradum 58^{mum} latitudinis borealis; nec non in montibus scopulosis, *Richardson.* (*hab. s. sp. comm. cel. Hooker.*)

This curious species more nearly resembles *C. spectabile* than any other in North America, but its flowers are many times smaller, and the front sepal is bidentate.

11. CYPRIPEDIUM Irapeanum. *Llave Orch. mex.* 2. 10.

C. caule folioso piloso multifloro, foliis ovatis acuminatis amplexicaulibus, stamine sterili ovato acuminato basi fimbriato, sepalis petalisque æqualibus oblongis basi barbatis antico apice bipartito labello obovato ore constricto brevioribus.

Hab. in *Mexico;* Irapeo, Rancho del Aguacate, *Hartweg*, in montibus Irapei, versus Arumbaro, Llave. (*hab. s. sp.*)

This, the *Flor de Pelicano* of the Mexicans, is a most beautiful species. The sepals and petals are nearly equal, 2½ inches long and more than an inch wide, and pale yellow; the lip is still longer, of the same colour, but with some scarlet spots upon the inflexed border.

12. CYPRIPEDIUM macranthon. *Swartz. act. holm.* 1800. *p.* 251. *Hooker in Bot. Mag. t.* 2938. *Lindl. in Bot. Reg. t.* 1534. *Ledeb. fl. alt.* 4. 174.

C. caule folioso 1-floro, foliis oblongis acutis, stamine sterili cordato acuminato, sepalis inæqualibus dorsali oblongo acuto antico minore bidentato, petalis ovato-lanceolatis labello ore contracto crenato brevioribus.

Calceolus petalis nectario æqualibus aut minoribus. *Gmel. sib.* 1. *p.* 2. *t.* 1. *f.* γ.
Calceolus purpureus speciosus. *Amman. ruth. p.* 132. *n.* 176. *t.* 21.

Hab. in *Asia septentrionali*, inter Betulas, per omnem Sibiriam et Dahuriam; in montibus Altaicis locis humidiusculis umbrosis, *Ledebour;* Ukraniâ, *Fischer.* (*hab. s. sp.*)

Flowers deep purple, not at all spotted.

13. CYPRIPEDUM ventricosum. *Swartz. act. holm.* 1800. *p.* 251. *Willd. sp. pl.* 4. 145. *Sweet Brit. Fl. Gard. ser.* 2. *t.* 1.

C. caule folioso 2-floro, foliis oblongis acutis, stamine sterili sagittato cordato concavo, sepalis inæqualibus dorsali oblongo acuminato antico minore bifido, petalis lineari-lanceolatis acuminatis labello longioribus.

Calceolus δ petalis nectario longioribus. *Gmel. sib.* 1. 3. *t.* 1. *f.* δ.

Hab. in *Sibiria.* (*hab. s. sp. ex herb. Stephan.*)

Flowers very large, deep purple, richly spotted in the centre and round the edges of the lips, which are pale yellow.

3. Arietinium; *caule polyphyllo. Sepalis omnibus liberis.*

14. CYPRIPEDIUM arietinum. *Brown in Hort. Kew.* 5. 222. *Pursh fl. am. sept.* 2. 595. *Bot. Mag. t.* 1569. *Lodd. Bot. Cab. t.* 1240.

C. caule folioso pubescente 1-floro, foliis lanceolatis glabris, sepalis omnibus liberis lateralibus petalisque linearibus subæqualibus dorsali ovato acuto, labello unguiculato obconico, stamine sterili orbiculari.

Arietinum americanum. *Beck Bot. of North and Midd. st.* 352.

Hab. in *America septentrionali,* inter sphagna; Canada, *Goldie,* Pursh; Vermont et Maine, Beck. (*hab. s. sp.*)

Stem 6 to 8 inches high, with few alternate leaves. Flowers small, greenish brown. Lip small, acute, netted with purple veins upon a white ground. The separation of the lateral sepals is not sufficient to justify this plant being distinguished generically from Cypripedium.

4. Bifolia; *caule diphyllo.*

15. CYPRIPEDIUM japonicum. *Thunb. fl. jap.* 30. *ic. jap. t.* 1. *Swartz. act. holm.* 1800. *p.* 251. *Willd. sp. pl.* 4. 146.

C. caule diphyllo villoso, foliis suboppositis subrotundis acutis sinuato-undulatis, bracteâ oblongâ acutâ ovario multò breviore, sepalis petalisque labello subgloboso brevioribus.

Hab. in *Japonia,* Thunberg.

16. CYPRIPEDIUM guttatum. *Swartz. act. holm.* 1800. *p.* 251. *Falk topogr. beytr. II. t.* 17. fide *Ledeb. fl. alt.* 4. 174.

C. caule diphyllo, foliis alternis ovato-ellipticis acutis ciliatis, stamine sterili ovato emarginato, bracteâ oblongâ acuminatâ ovario longiore, sepalis labello brevioribus dorsali maximo apiculato antico bifido, petalis ovatis acuminatis abruptè acutis, labelli subrotundi ore patulo plano.

Calceolus foliis ovatis binis caulinis. *Gmel. sib.* 1. 5.
Calceolus minor flore vario. *Amman. ruth.* 137. *n.* 177. *t.* 22.

Hab. in *Asia* et *Americâ boreali*; Sibiria Gmelin; montibus altaicis in locis umbrosis humidiusculis, *Ledebour*; Dahuria, *Fischer*; circa Mosquam in sylvis, *Prescott*; Unalaschka, *Bunge*; necnon in Canada, *Richardson.* (*hab. s. sp.*)

Flowers small, stained with numerous blotches of crimson. It varies very much in the hairiness, some specimens being nearly glabrous.

5. Acaulia; *foliis omnibus radicalibus.*

17. Cypripedium humile. *Salisb. act. linn.* 1. 79. *t.* 3. *f.* 4. *Swartz. l. c. Willd. sp. pl.* 4. 144. *Bot. Mag. t.* 192.

C. acaule, foliis binis radicalibus membranaceis oblongis plicatis, scapo pubescente, bracteâ foliaceâ acuminatâ ovario multò longiore, stamine sterili rhombeo acuminato, sepalis labello duplo brevioribus, petalis lineari-lanceolatis rectiusculis imberbibus, labelli maximi ventricosi ore contracto.

C. acaule. *Mich. amer. sept.* 2. 161.

Hab. in *Americâ septentrionali;* in rupestribus umbrosis paludibusque montanis desiccatis a Canada ad Carolinam, Pursh. (*hab. s. sp.*)

Lip large, bright purple, veined with darker purple. Sepals and petals pale dull brown.

18. Cypripedium venustum. *Wall. MSS. Bot. Mag. t.* 2129. *Hooker Exot. Fl. t.* 35.

C. acaule, foliis coriaceis ligulatis canaliculatis, scapo pubescente, bracteâ ovario plus duplo breviore, stamine sterili cuneato, sepalo antico lanceolato labello breviore dorsali subrotundo-ovato acuminato, petalis lineari-oblongis obtusis barbatis, labelli oblongi ore utrinque inflexo et lobo acuto erecto aucto.

Hab. in *India orientali;* Sylhet *Wallich.* (*hab. s. sp. et v. v. c.*)

Leaves spotted like a Gasteria, and somewhat scabrous. Flowers greenish, with the inside of the petals purple, and the labellum yellowish, netted with green veins.

19. Cypripedium purpuratum. *Lindl. in Bot. Reg. t.* 1991.

C. acaule, foliis coriaceis oblongis acutis striatis maculatis canaliculatis, scapo pubescente, sepalo dorsali acuminato ciliato margine revoluto, petalis oblongis subundulatis pubescentibus, stamine sterili lunato.

Hab. in *archipelago Malaico, hortulan.*

This rare plant is said to be a native of the Malay archipelago, but there is no evidence before me on that point. I have never seen it, but the excellent figure in the Botanical Register leaves no doubt of its being a quite distinct species. Its leaves are most like those of *C. venustum*, but are more oblong, and far less rigid, besides having a pallid colour, quite unlike that of the species alluded to; its petals moreover want the long bearded fringe, and the dorsal sepal is convex, not concave.

20. Cypripedium insigne. *Wall. MSS. Lindl. coll. Bot. t.* 32. *Hooker exot. fl. t.* 34. *Lodd. Bot. Cab. t.* 1321.

C. acaule, foliis coriaceis lineari-ligulatis debilibus basi canaliculatis, scapo tomentoso, bracteâ ovario subæquali, stamine sterili obcordato pubescente, sepalo antico obtuso labello subæquali dorsali fornicato oblongo undulato emarginato, petalis lineari-obovatis subundulatis basi barbatis extùs pubescentibus, labelli oblongi ore utrinque inflexo et lobo obtuso erecto aucto.

Hab. in *India orientali;* Sylhet *Wallich*, Khasiya, *Griffith*, *k.* et *l.* in herb. ind. (*hab. s. sp. et v. v. c.*)

Flowers pale green. Upper sepal large, broad, white-edged and spotted with brownish purple. Lip deep yellow.

21. CYPRIPEDIUM Lindleyanum. *Schomburgk in litt.*

C. acaule, foliis radicalibus lanceolatis rigidis coriaceis acutis plicatis glabris, scapo rufo-villoso paniculato vaginato, vaginis bracteisque fuscis acutis cucullatis rigidis, stamine sterili hirsuto tridentato fornicato, sepalis villosis concavis obtusis antico labello breviore integro, petalis lineari-oblongis rectis obtusis villosis sepalis longioribus, labello oblongo calceiformi glabro.

Hab. in *Guayaná*; in montem Roriema pratis humidis inter Utricularias, Xyrides, Droseras et Heliamphoras, *Schomburgk.* (*hab. s. sp. et ic. pict. comm. cel. inventor.*)

I unwillingly consent, at the particular instance of Mr. Schomburgk, to allow this plant to bear my name, who have no title to the compliment. It is a most remarkable species, with green stiff leaves, smooth, and bordered with yellow. The stem is two feet high, *panicled!*, and covered with large hooded erect scales and bracts, which are of a pale brown colour, and densely clothed with brown glandular hairs. The sepals and petals are of the same colour; but the lip is dull green, with the sides streaked with the same colour, and the border turned inwards and downwards; its sides appear to be brought together as if the labellum were compressed. The sterile stamen, and stigmatic part of the column, are covered with stiff hairs or bristles.

Section unknown.

22. CYPRIPEDIUM caudatum.

C. sepalis oblongo-lanceolatis acuminatis extùs pubescentibus, petalis lanceolatis extùs pubescentibus in acumen longissimum caudiforme productis, labelli ore hirsuto.

Hab. in *Peruvia;* In herbario Ruizii et Pavonii Limæ conservato invenit Mathews, et Hookero misit.

I have only seen one mutilated flower of this extraordinary plant, obtained at Lima, from an herbarium of Ruiz and Pavon, and sent by Mathews to Sir W. Hooker. The petals are nearly 8 inches long, while the sepals are about 5 inches long.

23. There is also in Sir W. Hooker's herbarium a second species, taken by Mathews out of the same collection, but it is too imperfect to be introduced here.

NOTE. The twenty-three species of Cypripedium above described have the following geographical distribution :

Names of the Genera.	Europe.	Siberia and Northern Asia.	North America.	Northern India and Nipal.	Continent of India.	Ceylon.	Indian Archipelago.	China.	Japan.	New Holland.	South Sea Islands.	America within the tropics.	South America beyond the tropic.	South Africa.	Mauritius, etc.	Africa within the tropics.	North Africa.
299. Cypripedium .	2	4	9	3	.	.	1	.	2	.	.	6	.	.	.	.	.

The following published genera were omitted in their proper place, among Malaxeæ.

CORALLORHIZA.

Corallorhiza. *Hall. Hist.* 2. 159. *R. Brown in Hort. Kew.* 5. 209. *Endlich. gen. no.* 1339.

Perianthium ringens. Sepala lateralia ascendentia, basi obliqua, in cornu brevis forma decurrentia, supremum erectum incurvum. Petala sepalis conformia, sed paulò minora, supra columnam conniventia. Labellum unguiculatum, basin versus bilamellatum, patulum, integrum trilobumque. Columna libera, semiteres, petalis ferè æqualis, clinandrio plano truncato; stigmate ovali in rostellum parvum recurvum glanduliforme producto. Anthera 2-labiata, 2-locularis, trivalvis, (nempè labii superioris valvulis connectivo colligatis, inferioris disjunctis.) Pollinia 4, globosa, cereacea, mollia, libera, nunc rostello leviter adhærentia.———Herbæ parasiticæ, sæpiùs fuscæ aphyllæ, nunc foliosæ, hemisphæram borealem utriusque orbis in paludibus habitantes. Rhizoma corallinum, ramosum, articulatum, fibrillis ferè nullis. Scapus vaginatus. Flores racemosi, fusci.

The pollen masses of this genus are softer than customary among Orchidaceous plants with waxy pollen; but they cohere in round solid masses, and only indicate their pulverulent nature when softened in water, and crushed; I therefore think it better to regard the genus as of the Malaxeous than of the Arethuseous tribe. It seems to constitute a type of structure among Malaxeæ equivalent to that of Eulophia in Vandeæ.

§ 1. *Aphyllæ.*

a. Labellum trilobum.

1. Corallorhiza innata. *R. Brown in Hort. Kew.* 5. 209. *Hooker fl. Lond. n. s. t.* 142. *fl. bor. am.* 2. 194.

C. aphylla, racemo paucifloro, ovario oblongo, cornu adnato, labelli trilobi lobo intermedio emarginato glabro lateralibus subtruncatis: lamellis rectis ultra sinus vix productis.

Ophrys corallorhiza. *Linn. sp.* 1349. *Eng. Bot. t.* 1547.
Cymbidium corallorhizon. *Swartz. act. holm.* 1800. *p.* 238. *Willd. sp. pl.* 4. 109.
Corallorhiza Halleri. *Rich. orch. eur. annot. n.*
Corallorhiza Neottia. *Crantz. carniol. n.* 1134.
Corallorhiza verna. *Nuttall in Journ. acad. Phil. Oct.* 1823 *p.* 135. *Beck Bot. of the States,* 345.

Hab in paludibus *Europæ,* omnis *Sibiriæ,* Gmelin, et *Americæ septentrionalis.* (*hab. s. sp.*)

There is certainly no difference whatever between the *C. verna* of the N. American Botanists and our European *C. innata.* Reichenbach (*Fl. excurs. p.* 131.) mentions a variety of the latter, which, he says, resembles the *C. multiflora,* and like it has a white lip with crimson spots, but I have seen no specimens of it.

2. CORALLORHIZA multiflora. *Nutt. l. c. t. 7. Beck l. c. Hooker Fl. Bor. am.* 2. 194. *exot. fl. t.* 174.

C. aphylla, racemo multifloro, ovario oblongo pedicellato, cornu adnato gibboso, labelli trilobi lobo medio oblongo obtuso glabro lateralibus acuminatis tèr longiore: lamellis flexuosis ultra sinus longè productis.

C. innata. *Nutt. gen.* 2. 197.
Orobanche verna, &c. *Pluk. alm. t.* 211. *f.* 2.

β. occidentalis; cornu magis gibboso, labelli lobo medio subrotundo lateralibus acuminatis duplò longiore: lamellis vix ultra sinus productis.

Hab. in *Americâ septentrionali,* in Canadam usque; *β* in California, *Douglas.* (*hab. s. sp.*)

Flowers brownish yellow, with a white lip daggled with crimson. This is a much larger and stouter plant than *C. innata,* not unfrequently producing a narrow leaf from the apex of the uppermost sheath of the stem. The supposed variety *β* is a still larger plant, and is perhaps a distinct species.

3. CORALLORHIZA mexicana.

C. aphylla, racemo multifloro, ovario ovali longiùs pedicellato, cornu adnato gibboso, labelli trilobi lobis rotundatis intermedio duplò longiore infra apicem pubescente: lamellis ultra sinus haud productis.

Hab. in *Mexico;* in sylvis Mineral del Monte, Augusto, *Schlechtendahl,* no. 2. (*hab. s. sp.*)

Flowers white and red. Very like *C. multiflora,* but apparently distinct in the characters above stated.

4. CORALLORHIZA striata.

C. aphylla, racemo denso elongato imbricato, ovario elongato ovali pedicellato, cornu adnato gibboso, sepalis petalisque lanceolatis striatis, labelli trilobi lobo medio obovato acuto lateralibus acuminatis tèr longiore: lamellis inconspicuis medio labello cis sinus adnatis.

Hab. in *Americâ* boreali-occidentali, *Douglas.* (*hab. s. sp.*)

This is by far the finest species of this genus, the flowers being as much as an inch in diameter. The sepals and petals seem to have been thin, and distinctly marked with 3 stripes, while the labellum appears to have been fleshy. One of my specimens is nearly 2 feet high.

5. CORALLORHIZA Mertensiana. *Bong. veg. Sitcha p.* 47. *Hooker Fl. Bor. am.* 2. 194.

C. aphylla, racemo tenui multifloro, ovario elongato pedicello æquali, cornu sublibero, sepalis lateralibus patentibus petalisque linearibus obtusis, labelli trilobi lobis lateralibus acuminatis denticulatis intermedio oblongo obtuso: lamellis tenuibus ad sinus productis.

Hab. in *America* boreali-occidentali; Bongard, *Menzies,* &c. (*hab. s. sp. comm. cel. Menzies.*)

Raceme long and slender, on account of the flowers being pressed close up against the rachis. The horn is very prominent.

b. Labellum indivisum.

6. CORALLORHIZA odontorhiza. *Nuttall gen.* 2. 197. *Id. in Journ. Acad. Phil. Oct.* 1823. *p.* 138. *Elliot. Carol.* 2. 505.

C. aphylla, racemo paucifloro (2-10), ovario subrotundo longè pedicellato, cornu obsoleto, labello subrotundo denticulato crispo indiviso: lamellis inconspicuis.

Cymbidium odontorhizum. *Willd. sp. pl.* 4. 110.
? Orobanche autumnalis &c. *Pluk. alm. t.* 211. *f.* 1.

Hab. in *America septentrionali;* Florida *Chapman* (D.) Philadelphia *Gray* (B.), Virginia *Beyrich,* Carolina in quercetis umbrosis prope Beaufort, Elliot. (*hab. s. sp.*)

This very distinct plant seems to be confounded by some American botanists with *C. multiflora* or *innata,* from both which its membranous undivided round lip clearly distinguishes it. It is a smaller species than *C. innata.* Whether Plukenet's figure is intended for the latter or the present species it is hard to say. It is scarcely worth quoting.

7. Corallorhiza Wistariana. *Conrad in Journ. Acad. Phil.* 6. 145.

C. aphylla, racemo paucifloro (3-12) laxo, ovario elongato breviùs pedicellato, cornu obsoleto, labello oblongo emarginato indiviso basin versus denticulato: lamellis tenuibus apice rotundatis.

Hab. in *America septentrionali;* Novum Aurelianum *Torrey,* Philadelphia, *A. Gray.* (*hab. s. sp.*)

This little plant is perfectly distinct from *C. innata,* to which Sir W. Hooker refers it, in its undivided lip, and much larger flowers, which are about the size of C. multiflora. According to Dr. A. Gray it flowers early.

§ 2. *Foliosæ.* (Eulophiæ affines, generis dubii.)

8. Corallorhiza foliosa.

C. folio ensiformi plicato, scapo laxè bivaginato, spicâ densâ oblongâ, bracteis acuminatis ovario brevioribus, labelli trilobi in basin sensim angustati laciniis lateralibus rotundatis planis intermediâ cuneatâ rotundatâ undulatâ: lamellis linearibus approximatis ad sinus productis.

Hab. in *India septentrionali, Royle.* (*hab. s. sp. a cel. invent.*)

Whole plant about 8 inches high. Leaf the same length; spike 1½ inch long. Root unknown.

9. Corallorhiza patens

C. folio ensiformi plicato, scapi vaginâ inferiore laxâ obtusâ membranaceâ superiore lineari patente, racemo laxo paucifloro (7-8), bracteis linearibus ovario ter brevioribus, labelli trilobi basi obtusi laciniis lateralibus linearibus obtusis intermediâ oblongâ rotundatâ apice crispâ basi bilamellatâ.

Hab. in *Sibiria, Prescott.* (*hab. s. sp.*)

Of this plant I have a small specimen, marked Siberia, and given me by Mr. Prescott many years ago. It is 8 inches high, with a short-jointed rhizoma, covered with loose scales. The raceme is lax, and the flowers are hardly ringent, but spread nearly equally from the centre.

I am uncertain whether these two plants really belong to *Corallorhiza.* If it were not for their leaves they would be referred to the genus

without question. Their habit is that of Eulophia; but they certainly have 4 pollen-masses, apparently loose in the anther.

10. *Aphyllorchis pallida*, Blume Tabellen, t. 77, of which no description has been published, seems to be near this genus, from which, however, it differs in having a bordered clinandrium, a 5-lobed lip, and perhaps connate lateral sepals.

APLECTRUM.

Aplectrum. *Nuttall. gen.* 2. 198. *Hooker fl. bor. Am.* 2. 194.

Perianthium connivens. Sepala æqualia, libera, lateralia haud basi producta. Petala conformia. Labellum unguiculatum, liberum, petalis æquale, trilobum, medio lamellis tribus auctum, columnâ parallelum. Columna elongata, recta, teres. Pollinia 4, (00.00) caudiculis et glandula nullis.——Herba terrestris Americæ septentrionalis, rhizomate articulato, cormos gerente. Folium solitarium, plicatum, hiemale. Scapus radicalis, 3-vaginatus, multiflorus. Flores demùm penduli.

1. Aplectrum hiemale. *Nutt. Journ. Acad. Phil. p.* 139. *Hooker, fl. bor. Amer.* 2. 194.

Cymbidium hiemale. *Willd. sp. pl.* 4. 107.
Corallorhiza hiemalis. *Nutt. gen.* 2. 108. *Elliot, Carol.* 2. 505.

Hab. in *America septentrionali;* Pennsylvania, Muhlenberg; in sylvis umbrosis a Canada ad Carolinam, humo nascens, Nuttall; Kentucky, florens Maio, *Short.* (*hab. s. sp. comm. cel. Hooker.*)

This plant is said by Willdenow to have two large ovate leaves, like those of a Veratrum, scabrous backwards at the edge; but all other authors speak of it as having only one, and I find but one, with smooth margins in a beautiful specimen given me by Sir W. Hooker. Elliot describes it thus: "Root concatenately bulbous, leaf solitary, large, oval, lanceolate, somewhat plaited, rigid, springing from the root and tapering at the base into a petiole 2 or 3 inches long. Scape 12 or 18 inches high, clothed with about 3 loose sheaths. Flowers in a terminal raceme, at first erect, afterwards pendulous. Petals linear-oblong, connivent, distinct, all nearly equal in size and in form. Lip unguiculate, distinct at the base, and about the length of the petals, dilated towards the extremity, trifid, ridged along the centre, the middle lobe round, with the margin undulate and crenulate. Column of an equal thickness and slightly curved, shorter than the lip. Lid of the anther membranous, caducous. Pollen masses 4, lenticular, waxy, attached to the summit of the column, at length deciduous."

Dr. Asa Gray informs me that the cormi are excessively glutinous and are called *Putty roots* in the United States, where they are used by the poor as a cement for broken porcelain. The plant has very much the appearance of a Eulophia, and its round cormi, the size and form of those of Crocus luteus, upon a slender subterranean rhizoma, may be compared with some of the plants of that genus. Its pollen masses, however, appear, as far as I can ascertain from the dried specimens, to be destitute of gland and caudicula.

POSTSCRIPT.

The following published species have been omitted in the preceding work, in consequence of the author's inability to ascertain to what genera they probably belong. Botanists who may possess information concerning them, or authentic specimens, are earnestly requested to communicate with the author, to whom a single flower-bud of such plants would generally be sufficient to solve his doubts.

1. Cranichis nudifolia. *Pers. syn.* 2. 511. (Galeola nudifolia *Lour. fl. coch.* 2. 636.)
2. Limodorum imbricatum. *Afz. in Pers. syn.* 2. 521.
3. ——— emarginatum. *Id.*
4. ——— bidens. *Id.* all apparently species of Angræcum.
5. ——— flexuosum. *Willd.* 4. 128.
6. ——— fasciola. *Swartz. in Schrad. diar.* 1799. 231. (Vanilla fasciola *Gaudich. voy. p.* 427. Epidendrum fasciola *Forst. prodr.* 320.)
7. Pachyphyllum scandens. *Llave, orch. Mex.* 2. 28.
8. ——— ? uniflorum. *Id.*
9. Dendrobium aloideum. *Id.* 2. 43.
10. ——— bracteatum. *Id.*
11. ——— pusillum. *HBK.* 1. 357.
12. ——— acuminatum. *Ib.*
13. ——— elegans. *Ib.*
14. Epidendrum bidentatum. *Retz. obs.* 6. 54. (Limodorum bidentatum. *Willd. sp.* 4. 124.)
15. ——— liliifolium. *Willd. sp.* 6. 61.
16. ——— obtusifolium. *Willd. sp.* 4. 118.
17. ——— tuberosum. *Lour. fl. coch.* 2. 639.
18. ——— polystachys. *Thouars. orch. afr. t.* 82.
19. Cymbidium Calceolariæ. *Willd. sp. pl.* 4. 97. (N. B. C. ovatum W. *est* Dendrobium crumenatum *p.* 88.)
20. ——— testæfolium. *Id.* 4. 96.
21. Thrixspermum centipeda. *Lour. fl. coch.* 2. 635.
22. Corymbis. *Thouars orch. maur. t.* 37.
23. Scaredederis. *Id. t.* 91.
24. Amphorchis inermis. *Id. t.* 5.
25. Orchis satyrioides. *Stev. in mem. mosq.* 2. 176. *t.* 11. *f.* 6.
26. Oxyanthera micrantha. *Ad. Brongn. Duperr. voy.* 197. *t.* 37. *B.*

October, 1840.

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